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WE have recently learned that several of our subscribers have failed to get their copies of NEW REMEDIES in season, or, in some cases, altogether. If there is *ever* any delay in the receipt of the journal, we shall be obliged if a notice is sent at once to the publishers.

## EDITORIAL.

### A List of Reputable Medical Colleges Asked For.

"A communication was read from the Centennial Commissioners from Victoria, asking information as to the list of medical colleges in good standing in this country. A motion was made to refer it to the Judicial Council.

"DR. BUSEY said the Judicial Council did not have the right to determine the standing of any college.

"DR. FROTHINGHAM, of Michigan, said the quarrels about the colleges were a disgrace to the profession.

"On motion of DR. TONER, the whole matter was laid on the table."—Report of the twenty-second annuul meeting of the American Medical Association.—*The Medical Record, No.* 293, *p.* 391.

IF this is the only manner in which the American Medical Association, after all that has been said about its efforts to "raise the standard of medical education" in this country, can treat such a communication from a foreign board of Commissioners, it is but fair to ask upon what ground it can presume to act as judge in the case of the Michigan State Medical Society *vs.* the Medical Department of the Michigan State University?

We have always supposed that it was the function of this association to answer just such questions, as being the representative of the medical men who have adopted and conformed to the code of ethics called by its name. We are still of that opinion, and furthermore believe that this pusillanimous course will have the effect of lessening, among foreign physicians and boards of censors, the respect which is due to the diplomas of the good medical schools in our midst, whose standing abroad it is the moral duty of the American Medical Association to protect.

That there are among us men, who have obtained charters for and have organized medical schools, with the almost exclusive purpose of selling diplomas; and that such fraudulent diplomas are to be found in multitudes in foreign countries, must be known to the men whose names appear in the report.

It is not long since this matter was the subject of correspondence between the British Minister to our government and the Secretary of State; and now, in Victoria, where the reputable physicians are doing what they can to improve the status of the profession in that colony, the effect of the action of our great ethical body is not very well calculated to do honor to the holder of an American diploma, or increase the probability of any of their students coming to our schools for instruction.

We are not believers in the homœopathic theory of cure, nor do we approve of the methods by which, as a class, homœopathic practitioners in this country and abroad have striven to increase their practice or acquire friends and supporters; but we are equally tired and disgusted with the course pursued by men who wish to be thought

impartial, and profess to be governed by scientific principles in the discussion of questions involved in the claims of homœopathy.

While we can but agree with Dr. Farquharson that caution should be exercised in the sale and use of active remedies, we recognise, in the facts he mentions, no cause for greater discrimination against homœopathic preparations than those of his own or our Pharmacopœia; and we do object to the manner in which he and multitudes of other men are in the habit of writing and speaking about the homœopathic question. Not that we wish to be considered defenders of homœopathy, but because we believe that it is beneath the dignity of men who claim to be members of a scientific profession, to write upon matters about which they confess that they do not know the facts.

Thirty years ago the American Medical Association was started; a year later, the New York Academy of Medicine came into existence; and one of the leading motives for their organization was the extinction of homœopathy. While there are to-day more homœopaths in the United States than in all the world besides, and New York City is their head-quarters, the number of really scientific reports of investigations into the truth or falsehood of their theory of therapeutics on the part of truly scientific men can be counted on the fingers of one hand, while the quantity of rubbish which has appeared in print is about as edifying and devoid of common sense as the bulk of the writings of homœopaths themselves; and the paper of Dr. Farquharson, so far as it relates to the practices of homœopathic physicians, is little better than the rest of them.

As for Dr. Johnson's cases: the young lady who was sick for eight months, because she took twenty-five drops of a homœopathic tincture of camphor might, with all respect to both of these gentlemen, just as likely have been the subject of hysteria as a sufferer from camphor-poisoning, for all that we can learn to the contrary from their reports of the case. The experiments on the rabbits with aconite prove nothing that we did not know before, or that could not have been learned from the pharmacist who sold the tincture; and the same may be said of the belladonna. Since homœopathy has been in existence, its adherents have claimed to prepare or procure for their use, tinctures which represent, in the very best degree, the active principles of the remedies employed, and in concentrated form. If concentration is to be a source of complaint, why in the name of all that is rational have our own pharmacists, chemists, and experimental therapeutists been encouraged, for years past, to seek for the active properties of crude drugs, and give them to us in the form of alkaloids, oleo-resins, extracts, etc.? As for the risk of poisoning, which may result from their use in unskilful hands, we cannot see that the doctor's arguments will apply with any greater force to one class of preparations than they will to others. Neither aconite nor belladonna, arsenic nor corrosive sublimate, can be taken indiscriminately with safety, whether their preparations contain double or treble quantities of ingredients in one case greater than in another. And it is yet to be proven, we think, that any amount of legislation in reference to the sale of active medicines has had any perceptible influence upon the number of cases of poisoning either by design or accident. He says that one of the great boasts of homœopathists used to be that no mercury or injurious metallic substance was ever prescribed by any of their practitioners, in which statement we are confident he is entirely wrong. The sect of Thompsonians, or "Eclectics" have made such claims; but to our personal knowledge both mercurius and arsenicum, stibium and argentum nitricum, have been employed by homœopathists for more than thirty years, and claimed to be among their most popular and valuable remedies. He confesses that he knows nothing of the principles of those who practise homœopathy, and it is evident that he is as little acquainted with their practices. Nevertheless he adds: "It is pretty evident, however, that to dose diseases solely by their names, and to prescribe infinitesimal dilutions, has not proved sufficiently captivating to the enquiring intellect of this sceptical age; and that, in order to sustain the principle of subdivision, excessive concentration still enables the practitioner to prescribe a minute quantity of his remedy."

This, in our judgment, contains two false assumptions. In the first place, homœopathic physicians, if they are the ones implied, do *not* dose diseases solely by their names. If there has ever been, since the world has seen sects in medicine, one whose doses have been regulated by symptoms, it has been the homœopathic, so-called. Indeed, their excessive regard for the most trivial sensations on the part of the patient, or the prover of a remedy, has brought upon them merited derision, and led to the almost utter neglect by them of the study of physiology and pathology, and a proper classification or nomenclature of diseases. In practice they sometimes do not take the trouble to make a diagnosis at all; or, when forced to do so, to quiet anxious friends, or to have a handle to their case, disclose their ignorance of pathology, physiology, and physical diagnosis. As for the degree of dilution in which they employ their remedies, if Dr. Farquharson had taken the trouble to lessen his confessed ignorance regarding the system about which he offers his conclusions, he would have learned that the degree of dilution or attenuation is a question still discussed by homœopaths themselves, and has but a subordinate connection with their theory of the action of remedies.

What they claim universally, as we understand the question, is—

"1st. That the *curative power* of a specific remedy is not in the *direct* ratio of its *material quantity*.

"2d. That a drug exerts a more powerful effect

on those organs for which it has a special affinity when these organs are *sick* than when they are *healthy;* whence it follows that *smaller doses* of the same drug are required to *cure* diseases for which it is the specific remedy, than would be needed to produce their symptoms in the healthy person.

"3d. That not only are smaller doses of specifics required to *cure* diseases than to produce their symptoms in the healthy; but that, when the symptoms of the diseased organism are *similar* to those produced in the healthy subject by a given drug, then this drug will act curatively on that organism in doses *so* small that they would hardly produce any effect whatever on the healthy organism."

*How* small these doses must or may be is another question, and, as we have just said, is one about which homœopathists themselves are undecided. All this talk about ridiculous infinitesimals is but begging the question, and but little becomes men who utter, in the same breath, their ignorance of the principles of homœopathy.

To conclude, there is nothing in the propositions which we quote above which is not susceptible of scientific investigation; and, until scientific men are prepared to deny the soundness of their claims to truth upon the basis of the same tests that are applied to other questions in therapeutics, let us have an end of such papers as the one we refer to, and which make us pray to be delivered from our friends.

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THE time is rapidly drawing near when the much-needed revision of our pharmacopœia should engage the attention of both medical and pharmaceutical workers. We are fortunate in being able to present the readers of this number with the views of two of the most competent authorities among us on the questions connected with our materia medica; and we hope that a discussion will follow, which may have its effect upon the revisors of the next edition, whoever they may be.

That a thorough revision is necessary is evident to most of us, and that a more frequent one is desirable, is the opinion of a large number of the medical profession at least. Many articles are coming into pretty general use, in response to as general a demand, which are not to be found in the edition of 1872; and the absence of definite and authoritative formulæ for their preparations interferes considerably with their satisfactory or practical employment, and the determination of their actual values.

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SEVERAL cases of poisoning have recently taken place in New York City, and the Coroners have been unable to obtain analyses of the contents of the viscera and the residue of the poisonous articles. Although they have applied to several competent chemists, they have not been able to find one who would undertake the labor or responsibility of an analysis. Already there are bills standing against the city for similar services rendered by Drs. Doremus and Endeman, the payment of which has been refused; and it is the evident intention of their brethren to confine themselves to work, which is more lucrative than that involving claims against the City treasury.

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## NEW YORK DRUG MARKET.

[*Prices given are for large lots from Importers' and Manufacturers' hands. For single packages an advance would be charged.*]

HOT weather and holidays have very materially interfered with business; the desire of many seeming to be to drop commerce for a time, and seek some "cool secluded spot,"

> "Where rumors of *advances* and *declines*
> Of unsuccessful and successful '*specs*'
> Shall never reach them more."

We have therefore but little of interest to note, the slight demand that does exist being almost entirely to fill immediate wants.

One strange result of the last two years' business is the timidity that has been engendered in the minds of even some of our boldest operators. They seem to consider any price, however low, as unsafe. No comparison with previous years has any influence with them, the reply being, when present prices are shown to be as low or lower than ever before: "Well, but this year is different from any other, and I look for a further decline." They advance no reasons, simply holding to opinions for which no reasonable grounds exist. Time and a few sharp advances in prices will, we hope, cure this, and bring in an era of confidence that will benefit all branches of the trade.

*Opium*, since our last, has been quiet at $5.75, gold, until about the 1st inst., when cables from Smyrna reported the crop estimate as 3,000 cases, and speculators buying heavily at advanced prices. This produced an active business here, and sales of upwards of 100 cases were made at $5.62½ @ 5.75, gold, the market closing firm at at $6.00 gold. With this supply lower prices are hardly possible, while higher prices are almost certain.

*Morphia* has advanced from $4.00 to $4.25, and lately to $4.40, in sympathy with Opium;

*Quinia* in brisk demand at unchanged prices, $2.20 per oz. for P. & W.

*Quicksilver* declined heavily, and sales have been made of large lots at 50c. gold. The San Francisco market continues dull and unsettled, sales having been made there at 47c. gold.

*Mercurials* have declined with the price of Quicksilver, and manufacturers' prices are as follows: Blue Pill 45c., Calomel 75c., Corrosive Sublimate 65c., Mercurial Ointment 39 and 50c., Red Precipitate 85c., White do. 95c. and $1.00.

*Borax* is without change, city refined selling at 11 @ 11½c., California 11 @ 11¼c.

*Blue Vitriol* is held at about previous figures, but some manufacturers are a little weaker, and would no doubt shade 8c. for round lots.

*Citric Acid* is in small stock and brisk demand. Manufacturers have advanced their prices to 75 @ 76c. gold.

*Camphor* continues firm and in fair demand at 27c.

*White Sugar Lead* dull, and a shade lower, 17½c. being the maximum price for lots.

*Chlorate of Potassium* has declined slightly, and prime brands can be had for 20½ @ 21c. gold.

*Iodide of Potassium* has been advanced to $2.45 @ 2.55 for P. & W.

*Prussiate of Potassium* without change, selling at 26 @ 27c.

*Carbonate of Ammonium* in fair demand. English 13⅜ @ 13½c. gold. American 16 @ 16½c. currency for casks and bbls.

*Oxalic Acid* in limited demand at unchanged figures, 10 @ 10⅛c. gold being asked.

*Tartaric Acid* moderately active at previous quotations, manufacturers asking 42 @ 42½c. gold. Powdered 48 @ 49c. currency.

*Cream Tartar* is low, American being quoted at 30c. gold, French 31½c. gold, Powdered 34½c. currency.

*Muriate of Ammonium* in good demand and the market firm, at 10⅜ @ 10¾c. gold.

*Sulphate of Ammonium*, American sells at 4¾ @ 5c. as to quality.

*Cuttle Fish Bones* have still further advanced, sales having been made as high as 30c.

*Venice Turpentine* in light demand at 17c.

*Balsam of Copaiba* has been largely sold at 56 and 57½c., at which figures it can now be obtained. Large arrivals and excessive competition have forced prices down to where they are now.

*Balsam Fir*, true Canada, can be had at $2.00, a round lot selling at a shade under this price.

*Balsam Peru* sells moderately at $1.25, being in good stock.

*Balsam of Tolu* without change, being obtainable at $1.65.

*Cubebs* about as last reported, prime quality selling at 9½c., and lower grades 9c @ 9¼c.

*Aloes*, at the last London auctions, sold at an advance of about 20 per cent. Cape have been advanced here to 15 @ 16c. Socotrine held at 35 @ 65c., the only change in these last being a little more firmness.

*Gum Asafœtida* without change, holders demanding 14c. for prime tears, 12 @ 13c. for good quality Bombay.

*Rhubarb* is quiet but firm, both here and in London. No sales of importance have been made, and previous quotations are still good, viz., $1.50 @ $2.25. Powdered, $1.50.

*Ginseng*, of new crop, has arrived, and sells at $1.15 @ $1.25, as to quality.

*Ginger*. Bleached Jamaica can be bought for 19 @ 19½c. Unbleached Jamaica 18 @ 18½c.

*Senna* quiet and without change, Alexandria being held for 20 @ 22c. Tinnevelly 14 @ 18c., as to quality.

*Ergot* dull, and but slight demand at $1.25 @ $1.37½.

*Tonca Beans*. The large arrivals have been pretty generally sold, and prime beans can be had at 85 @ 90c.

*Vanilla Beans* have arrived largely, and prices are lower. Prime quality can be bought for $16.00 @ $17.00. Good fair, $14.00 @ $15.00.

*Cassia Buds* are higher since our last, and holders now ask 39 @ 40c.

*Seeds*. Canary lower. Dutch and Sicily being quoted at $5.00 @ $5.25. Smyrna, $4.75. California white mustard seed in small stock and quotations are nominal. California brown, 8c. Trieste brown has been largely sold at 8¼c. Hemp seed, $1.85.

*Arnica Flowers* of extra quality have been sold at 13c., while good quality can be had at 12c. @ 12½c.

*Castor Oil* remains dull at 11c. for Baker's A. A. in cans, Western brands about 10¾c.

*Essential Oils*. Sanderson's lemon is in light demand at $3.25; other brands, $3.10 @ $3.15. Sanderson's bergamot weak and lower, being nominally held at $4.25; but purchases can be made at $4.12½; other brands, $4.00, all gold. Oil peppermint lower, H. G. H. being obtainable at $3.50; L. B. H., $3.50; can oil, $3.00 @ $3.25. Oil sassafras quiet and nominal at 50c. Oil cassia, 95c., gold. Oil anise weak and lower at $1.65, gold.

## MATERIA MEDICA.

### Remarks on Homœopathic Tinctures.

In the *Practitioner* of May, is an article by Robert Farquharson, M.D., on "Official Dosage, with some remarks on Homœopathic Tinctures," in which he criticises the doses given in the British Pharmacopœia of a number of the remedies in common use, but which are constantly and necessarily employed in doses widely differing from those given in the authority mentioned. As a posological table is not a part of our own pharmacopœia, we omit the earlier portion of the article, although what he says about dosage might well be applied to the Dispensatory of Wood & Bache; and will quote the portion relating to homœopathic tinctures, about which we have fewer sources for information. He says: "There can be no doubt, however, that caution is a safe side on which to err, and the restrictions under which our chemists and druggists are now placed are our great safeguards against accident and disaster; and we may congratulate ourselves on this all the more when we see the looseness which prevails in homœopathic pharmacy. We all know of the change

which has recently taken place in the principles of this class of practitioners, and how the feeble dilutions of former years have been replaced by excessively strong tinctures. This change, however, has not been followed by any laws regulating prescribing; and we accordingly find these deadly poisons dealt out freely to all comers without restriction, and compounded by druggists, who are not necessarily possessed of any legal qualifications." . . . . .

"That many of the homœopathic preparations are of dangerous strength has long been generally known, but to Dr. George Johnson is undoubtedly due the credit of bringing the matter home to us more directly. It is unnecessary for me to do more than remind you of his paper read before the Clinical Society, and which, supplemented by additional cases, is published in Vol. vii. of their transactions. Dr. Johnson brings forward five cases, occurring in his own practice and in that of others, in which unpleasant and even dangerous symptoms, consisting of epileptiform convulsions, violent pain in the head and spine, nausea, stupor, etc., were caused by doses of the concentrated homœopathic solution of camphor, ranging from eight two minim doses up to twenty twenty-five minims and a teaspoonful. In some of these, entire recovery only very slowly took place; and various distressing nervous sensations were experienced in the case of a young lady for fully eight months, after a single dose of twenty-five drops. As a contribution to our knowledge of the action of camphor on the healthy organism, the interest of these cases is much enhanced by the accurate way in which the various poisonous influences on the brain and spinal cord correspond with the account given of the physiological action of this drug, as deduced by experiment by Nothnagel. From an analysis obtained by Dr. Johnson, it would appear that this homœopathic solution of camphor contains one ounce to one and a quarter ounce of spirit; being stronger than the spt. camph. of the P. B., in the proportion of 7⅛ to 1; and, considering the freedom with which it is used in domestic medicine, Dr. Johnson has undoubtedly done good service by directing attention to its dangerous properties.

"Feeling desirous of obtaining some proximate idea of the strength of the strong or mother homœopathic tinctures, I procured some of the tinct. aconite, buying it over the counter at a chemist's shop, without any difficulty, and made the following experiments:—At six minutes to three o'clock, on Jan. 13th, I injected five minims beneath the skin of a full-grown rabbit; and, no effect being produced, in five minutes I injected fifteen minims more. In three minutes violent convulsive movements of the diaphragm set in, with attempts at vomiting, and a peculiar fighting movement of the fore-paws, as though trying to remove some obstruction about the mouth. A paralyzed condition of the hind legs followed, and death ensued, after a paroxysm of general convulsions, in exactly five minutes after the injection was performed. Ten minims proved fatal to a rather smaller animal in twenty-five minutes, the symptoms following exactly the same sequence and regularity. I find that ninety drops, dropped from an ordinary homœopathic drachm tincture bottle, correspond to sixty minims; and we therefore see that fifteen drops is sufficient to kill a rabbit." . . .

"So far as I can make out, the mother tincture of homœopathic practice about equals in strength our liniment of aconite, which we all know to be a very much stronger preparation than the tincture of the British Pharmacopœia.

"Coming now to the tincture of belladonna, I have found, on personal experiment, that ℥x. of the homœopathic mother tincture taken at night caused some dryness of the throat, with disturbed sleep and much dreaming; and three more doses at intervals through the next day were sufficient to keep up the same parched feeling about the mouth and throat, with an uncomfortable sensation of dryness and irritation over the skin generally.

"This is therefore evidently much stronger than our own tincture, which may usually be given in doses of from fifteen to twenty minims, without the induction of physiological symptoms, until the drug has been persevered with for some time. I have once seen ten doses of ten minims cause some discomfort to a delicate young woman; but, on the other hand, I have seen a girl of fourteen under treatment for incontinence of urine, who is taking with marked benefit ʒ ii ss thrice daily. An unpleasant dryness and thickness about the throat always precedes dilatation of the pupil, as the first indication that the remedy is beginning to exert its constitutional influence; and the early development of these effects when experimenting on myself shows how strong the preparation really is. I have not made observations in any of the other vegetable mother tinctures; but find, from the Pharmacopœia, that they are as a rule constructed on the uniform principle of one part of the juice of the plant to one of spirit, a strength which must render their use most dangerous, unless under strict medical supervision.

"As a fair sample of the metallic preparations of the homœopathic armamentarium, I have selected arsenicum and mercurius, both of which remedies are in extensive use; and being unable to obtain an accurate idea of their strength from the pages of the now antiquated Pharmacopœia, I applied to my friend, Mr. Barker, who kindly placed at my disposal the services of Mr. Brownen, the able analytical chemist of Messrs. Savory & Moore. This gentleman has favored me with the following careful report on the amount of the active principle contained in the first potency of arsenicum and mercurius:

"*Analysis of Homœopathic Solutions.*

"Two solutions were received for analysis.

"Solution I. was labelled 'Arsenicum Alb. Poison. Dose for an adult, one to five drops.' This solution was examined for arsenic and arsenicum, as arsenious acid was found.

"The menstruum was water, and it had a slight alkaline reaction.

"The arsenic was estimated by volumetric and gravimetric methods, with the following results:—

| | Volumetric. | Gravimetric. |
|---|---|---|
| Arsenious acid.....grs. | .994 | .893 |
| Water..... " | 100.000 | 100.000 |

"Or, reduced to fluid measures, one grain of arsenious acid, in 102 minims of water. The corresponding solutions in the British Pharmacopœia are each one grain of arsenious acid in 120 minims of solvent.

"Analysis H., labelled 'Mercurius Cor. Poison. Dose for an adult, one to five drops,' etc.

"This solution contained the amido-bichloride of mercury, dissolved in alcohol.

"The volume was estimated volumetrically as regards its chlorine, and colorimetrically as regards mercury.

"These operations gave the following results:

| | |
|---|---|
| Mercuric chloride,.....grs. | .075 |
| Water,..... " | 100.000 |

or about one grain in two fluid drachms, and about four times the strength of the solution of the perchloride of mercury as ordered in the British Pharmacopœia.

"Both preparations were, therefore, strong solutions of potent substances, and were rightfully labeled 'Poison,' as they were within the scope of the Poisons' Act.

"Although we have seen that the precaution was taken to label these preparations 'Poison,' I am not sure in how far they were freely sold; but in any case we find the ground cut from under the feet of the homœopathists, one of whose great boasts used to be that no mercury or injurious metallic substance was ever prescribed by any of their practitioners.

"Now, I feel quite conscious that the slight sketch just given of the strength of some of the principal homœopathic tinctures cannot be looked upon as much more than suggestive, and as a test for the remarks of others. I have not ventured to say one word upon, nor do I know anything of, the principles of those who practice homœopathy. It is pretty evident, however, that to dose diseases solely by their names, and to prescribe infinitesimal dilutions, has not proved sufficiently captivating to the inquiring intellect of this sceptical age; and that, in order to sustain the principle of subdivision, excessive concentration still enables the practitioner to prescribe a minute quantity of his remedy. The strong tinctures, which, as we have seen, are freely vended to all comers, have luckily not yet been taken into very general domestic use; or one might anticipate a long series of tragical events, before which even Dr. Johnson's interesting cases would hide their diminished heads. The dangers to be anticipated would seem to be fourfold:

"1. The free purchasing of these poisons with homicidal or suicidal intent.

"2. The rash confidence engendered in the minds of old-fashioned homœopathists regarding the weakness of their drugs, and the confidence with which they may be used. A mistake of this sort being made with aconite would not be likely to occur to the same patient a second time.

"3. The great probability of the mother tincture being mistaken for some of the dilutions, and recommended right and left in the usual free-and-easy way by amateurs. This might also be serious.

"4. And, finally, the possibility of the strong homœopathic tincture being mistaken for, and instead of, our weaker preparations; and in a competition of this nature, we, the allopathists, who are supposed to ruin the constitutions of our patients with enormous quantities of deleterious substances, must undoubtedly yield the palm of potency of dosage to those practitioners, the very essence of whose professional existence was formerly believed to depend on the magical effect of their infinitesimal dilutions.

"It is fortunate that those amateurs who delight to dabble in drops and globules use, as a rule, the third dilutions, which are, in all probability, powerless for good or evil. I have never been able to get any physiological effects from personally testing any of these tinctures, and Mr. Brownen has been unable to detect the slightest indication of the presence of even the smallest trace of arsenic or mercury in the attenuations of that strength. But we must remember that the potent mother tinctures are quite open to the public; that any one may go in and buy any quantity for any purpose, and that they are invariably prescribed in the most effective way, by small and very frequently-repeated doses. Such being the case, I feel that I require no justification for having brought the case forward for your consideration and discussion."

### Statistics of Chinese Drugs, and Drug Importations.

From the *British Blue-book on the Commerce of China*, consisting of commercial reports from H. M. consuls, and presented to both Houses of Parliament in 1875, we abstract the following interesting information (after *Buch. N. Rep.*)

By the treaty of peace, concluded in August, 1842, China bound herself to open to foreign commerce, in addition to the harbor of Canton, those of Amoy, Foochow, Ningpo, and Shanghai. To these were added, by the treaties of Tien-tsin, (1858) and Peking (1860), the following eight: Chefoo, Hankow, Kewkiang, Newchwang, Swatow, Taiwan, Tamsui, and Tientsin.

In view of the great importance of Chinese commerce, the British government has placed consuls or consular agents at all of these points, which, according to treaty, are open to all nations. We deem it useful to enumerate them in detail, beginning in the South:

1. *Canton*, $\frac{23.7.10\ \text{N.}}{130.56.30\ \text{E.}}$, with 500,000 inhabitants;[1]

[1] The estimates of the population of many of the eastern cities are very variable. The most reliable data, because based upon the latest and mostly official enumerations, are

up to the year 1842, together with the island-city of Macao, the only port of China open to foreigners.

2. *Swatow*,[1] Chao-cheu or Shan-shew, also named Tin-shin, at the mouth of the Han, a small city, but important by being the outlet of a considerable inland trade.

3. *Amoy*, Emuy or Hia-men, opposite the island of Formosa, at the mouth of the Dragon river, and partly situated upon the island of Amoy, with over 600,000 inhabitants.[2]

4. *Tai-wan*,[3] in the south-western part of Formosa (or Tai-wan), without good anchorage.

5. *Tamsui*, in the north-western part of Formosa.[4]

6. *Foo-chow*, Fu-cheu-fu, at the mouth of the river Min, Man, or Ta-ssü-khin, of about the same population as Amoy.[5]

7. *Kew-kiang*, or Kiew-kiang-fu, situated deep inland, in the province of Kiang-tsi, at the right bank of the Yang-tse-kiang river, likewise a populous city.[6]

8. *Hankow*, or Han-keu, situated further up on the same river, in the province of Chu-bei or Hupe (Hu-peh). In close proximity lies the city of Han-yang, and on the opposite (right) bank of the river, Wu-chang-fu. The population of these three cities is estimated at several millions.[7]

9. *Ning-po*,[8] $\frac{29°\ 55'\ 12''\ N.}{139°\ 4'\ 49''\ E.}$ a few miles from the sea, but accessible from it by a good channel.

10. *Shanghai*,[9] southward of the mouth of the Kiang river, but in communication with it and many interior points by good channels and canals.

11. *Chefoë*,[10] Shi-fu or Teng-cheu, in the province of Shan-tung, upon a peninsula projecting from the south into the bay of Pe-chi-li, beautifully situated.

12. *Tientsin*, Tien-tsin-fu, on the river Pei-ho, emptying into the bay of Pe-chi-li, south-east of Peking, with half a million of inhabitants.[11]

13. *Newchwang*, Niu-chwang, south of Mukden, in Manchuria, at the northeastern portion of the bay of Pe-chi-li.[12]

The present reports for the year 1874, refer to the ports mentioned above under 1, 2, 3, 5, 7, 8, 9, 12; from the others no reports had been received up to July, 1875.

*Tea.* Canton exported in 1874, 292,308 pounds of green tea, and 13,247,300 pounds of black tea. Swatow: 252,434 pounds of green, and 254,163 pounds of black. Most of the tea exported from Amoy goes to the United States, the total exports from this port exceeding in value £1,000,000 in 1874. Tamsui in Formosa, exported 3,281,346 pounds. But the chief places of export are Kewkiang and Hankow; the former exported 22,201,543 pounds of black and 9,720,512 pounds of green; the latter, 62,794,133 pounds of black, 5,408,800 pounds of "brick,"[1] and 2,709,609 of green tea. Ningpo exported 154,242 peculs.[2]

*Opium.* The most important article of import is East-Indian opium, a trade which is commented upon by the Consul in Canton with the following extenuating and non-committal remarks: "Opium is indeed a harmless stimulant, if used in moderation, which is usually the case. For sea-faring people, and those exposed to the hardships of weather, it is indispensable." The "official" imports were 973 peculs, but a much larger amount is smuggled in.[3] Swatow received 9374 peculs, of the value of £1,294,100, chiefly Malva opium. Tamsui imported only Bengal opium, 1665 peculs. Amoy received 1982 quintals,[4] among them 66 of Persian opium. Kewkiang took 2890 peculs of Malva opium and 15 of Patna. Hankow is said to have received 3050 peculs, but the smuggling business is flourishing here extensively. The Consul at Hankow has entirely different views from his colleague at Canton, for he says that the Chinese prefer the domestic article, on account of its milder action than the Indian, which latter produces sleeplessness. The opium raised in the Chinese province of Szechuan, west of Hankow, is so mild that the laboring classes do not become incapacitated for work by smoking it. The narcotic effect of the domestic opium is said to bear a proportion to the Indian, as 44 to 75. The yield of opium in the provinces of Yün-nan and Szechuan seems to come up to the demand.

Ningpo imported 7723 peculs, among them 7289 of Malva and 5 of Persian. This place is the centre of supply for a large portion of the interior, as the drug is here subject to smaller local taxes than elsewhere.

The progress of opium-production in this province (Che-kiang) is in reality frightful; districts in which the poppy was formerly unknown, have become covered, hill and dale, with poppy-plantations during the last three or four years. Although the officials do not fail to call the attention of the cultivators to the existing prohibitory laws, the chief effect of these, as well as many other Chinese interdicts, is merely to make the people understand that the infringement of the laws will be

given by "*Behm und Wagner, Die Bevölkerung der Erde*, Gotha, 1875." According to them, Canton has about 1,000,000 inhabitants, with 306 foreigners.

[1] 45,000 natives and 128 foreigners. *B. und W.*
[2] 300,000 natives and 157 foreigners. *B. und W.*
[3] 50,000 inhabitants. *Ritter.*
[4] 50,000 inhabitants. *B. und W.*
[5] 600,000 natives, 206 foreigners. *B. und W.*
[6] 50,000 inhabitants. *B. und W.*
[7] Hankow alone 800,000 natives, 1130 foreigners. *B. und W.*
[8] 400,000 natives, 140 foreigners. *B. und W.*
[9] 276,640 natives, 2074 foreigners. *B. und W.*
[10] natives, 157 foreigners. *B. und W.*
[11] 930,000 natives, 127 foreigners. *B. und W.*
[12] 70,000 inhabitants. *B. und W.*

[1] The term "brick" tea is derived from the brick-like shape into which the tea-leaves are pressed. Sometimes they are formed into balls, generally very large, but often also quite small.

[2] 1 pecul = 133⅓ lbs.

[3] During the year ending March 31, 1872, 85,470 chests of opium were exported from India to China.—*F. & H. Pharmacographia*, p. 50.

[4] 1 quintal = 50,802 kilos.

overlooked by forwarding the usual amount of cash to the proper quarter. In the district of Hsiang, the principal producer of opium is an ex-governor of the province, and not a few of the imperial officials are deeply interested in the cultivation of the tabooed drug. Meanwhile the domestic article is even here much weaker and less pure than the Indian, which circumstance is owing partly to the want of skill on the part of the workmen, and partly to the fact that the poppy-fields in the same year are made to produce a crop of rice, which impoverishes the soil.

The opium produced in this province is usually mixed with sugar-residues, whence it acquires the property of not being able to be made into cakes, so as to necessitate often the admixture of inferior sorts of foreign opium. But all these drawbacks will certainly be only of short duration, and Chekiang opium will become equal to Indian. Any serious attempt to suppress the cultivation of the poppy would unavoidably lead to open revolt; but there is no fear of any such measures, especially as certain discriminating taxes, favoring the consumption of the native against the foreign drug, show a desire of non-interference on the part of the Chinese government.

Tientsin received altogether 5310 peculs of opium, in 1874, mostly Malwa, and only very little Bengal or Persian, which is much cheaper than the former. Since the last five years, the price of imported opium has fallen considerably at this port, owing to the large home-production, supplied by at least eight large provinces of China.

A very important article of Chinese commerce is *Sugar*. Canton exported to other Chinese ports 202,360 peculs; Swatow almost 1,000,000 peculs. None of it seems to be exported abroad.

Of *Rhubarb*, only 173 peculs of the value of 5216 taëls,[1] were exported from Canton in 1874, against 685 peculs in 1873. Hankow exported 779 peculs, worth 26 taëls per pec., of Shensi rhubarb, and 2,124 pec., worth only 10 taëls per pec., of Szechuan rhubarb. Ningpo exported 396 pec., worth 20 taëls per pec. Finally, Tientsin is credited with 1,055 pec.—value not stated. The total exports of rhubarb from these ports, therefore, were 4,527 peculs, or 603,600 pounds, a quantity which appears larger than that of the immediately preceding years.[2]

Canton is known as the chief place of export for *Cassia;* not less than 54,268 pec., of the value of 542,689 taëls, were shipped there in 1874. At other ports cassia is almost unknown as an article of export. A staple article at Hankow are also the twigs of the cassia-tree (*Cassia-twigs*), of which the quantity in 1874 was 1,925 pec., value 5,677 taëls. The corresponding figures for Canton, which deals yet more largely in this article, are missing. These cassia-twigs, probably, have occasioned already in ancient times, the terms—wood-cassia, xylocassia, cassia lignea.

Of *Galls*, Canton exported 725 pec., Hankow 21,611 pec., of the value of 136,214 taëls, and Ningpo, 1,118 peculs.

*China-root*[1] was exported to the amount of 3,627 pec. from Kewkiang, of the value of 34,808 taëls; 9,393 pec. from Hankow, value 53,194 taëls. Ningpo imported 2,905 pec., but the export from this place is not stated.

A very important article is the so-called *Wood-oil*, the fixed drying oil of the seeds of *Aleurites cordata*, Müller Arg. (*Dryandra cordata*, Thunbg.), which is used as varnish. Not less than 199,654 pec., worth 1,228,396 taëls, are mentioned as having passed through Hankow, and 15,000 pec. through Ningpo. This oil is only used in the country itself.

Of *Musk*, Hankow exported 22 peculs, worth 125,089 taëls, Canton less than 1 pecul, Ningpo 2 peculs.

*Dried Lilies* to the amount of 11,500 pec. were carried in 1874 from Hankow to Amoy and Swatow. They are used as food and medicine, but the species is uncertain.

*Camphor* is not produced upon the continent, but is obtained from Japan and Formosa. Tamsui exported 14,380 quintals, and besides a large quantity of camphor-wood.

*Pepper* is largely imported in some parts; for instance, 866,133 pounds of black in Kiewkiang; 27,286 pec. black and 204 pec. white pepper in Hankow.

*Sea-weed* (Agar agar) forms likewise an important article of trade, Kiewkiang importing 7,000,000 pounds, Hankow 100,000 pec., and Tientsin 54,000 pec. The article is used partly for culinary, and partly for technical purposes.

Nearly all the *Cardamoms* which reach China are brought to Hankow; the amount in 1874 being 2,025 pec. The same place received also 1,554 pec. *Galanga*, and 1,226 pec. *Putchuk;* the latter is the root of *Aucklandia Costus*, Falconer, from Cashmere.

Among the other articles mentioned, we find *Ginseng* quoted with the following quantities: 302 pec. in Hankow, 683 in Canton, 29 in Tam-

[1] 1 taël=5 sh. 10½d. English, or $1.37 gold.

[2] From the recently published account of Col. Przewalski's travels in China and Mongolia (Petermann's Geogr. Mittheil. 1876, No. 4), we extract a few items supplementing the information given in Prof. Flückiger's paper, in our May number (p. 132). The Mongolian name of rhubarb is *Shara-mŏlo*, and the Tangutes call it *Dschumza*. The roots are collected during September and October by the Chinese and Tangutes, and sent to Sining (or Sining-fu), when they go to Peking, Tientsin, and other places, to be sold to Europeans, at an advance of 600 to 1,000 per cent. The trade was formerly so brisk, that only the difficult accessibility of the mountain-forests has preserved the plant from total extinction. But since the revolt of the Dunganes, the trade has fallen off and in many places has entirely ceased. Much rhubarb is said to be found yet at the upper course of the Taetung and Äzsinä. It grows chiefly in the black soil of ravines, extending to the limit of forest-growth (10,000'), but always prefers the northern side.

[1] The rhizoma of *Smilax glabra*, not *S. China;* see H. F. Hance, Journ. of Bot. 1872, No. 112. Zeitsch. d. Oest. Apoth. Ver. 1874. 230.

sui, 71 pec. American and 146 Japanese in Ningpo.

Of white *Sandal-wood* Hankow imported 16,260 pec., of the value of 105,696 taëls.

The delicious fruits of *Nephelium longanum*, Camb., natural family of Sapindaceæ, form an important article of import from the interior, under the name of *Lung-ngans;* 15,000 pec. reached Ningpo and 6,000 pec. Hankow.

### Note on so-called Wood-Oil.

PROF. F. A. FLÜCKIGER has found that the ethereal oil of the Dipterocarpus-balsam, which is better known as Gurjun-balsam or Wood-oil, is especially characterized by assuming a magnificent violet color, if dissolved in about 20 parts of carbon disulphide and mixed with a drop of a cold mixture of equal parts of concentrated sulphuric and nitric acids. A single drop of the ethereal oil is sufficient to produce this reaction and the color is persistent for several hours. It is not prevented by the presence of the resin, nor by balsam copaiva, so that the same reaction may be observed with crude gurjun-balsam, or with the same diluted with even eight times its bulk of copaiva.

This reaction is therefore of value—in connection with other criteria—to detect gurjun-balsam in copaiva. Under the same circumstances cod-liver oil and oil of valerian are also colored violet, but only very transiently; in order to exclude the possible interference of cod-liver oil, it is advisable to distil off the essential oil, which however is not a very agreeable operation, owing to the high boiling point (250°–260°C.). But only a few drops are sufficient for the purpose.

Should a variety of wood-oil be met with, which does not correspond to Prof. Flückiger's reactions, it might be owing to the fact that certain species of Dipterocarpus yield a different balsam. This wood-oil is obtained in very large quantities from the following species:

1. *Dipterocarpus turbinatus* Gärtn. ( = *D. lævis* Hamilton. *D. Indicus* Beddome).
2. *D. incanus* Roxb.
3. *D. alatus* Roxb.
4. *D. Zeylanicus* Thwaites
5. *D. hispidus* Thw.
6. *D. trinervis* Blume.
7. *D. gracilis* Bl.
8. *D. littoralis* Bl.
9. *D. retusus* Bl.

All these species are natives of India and the Archipelago, the last is even found on the Philippine islands, and the resinous balsams are generally used as varnishes, whence the appellation *wood-oil*. It is quite probable that there are differences in the balsams yielded by these various species, but so far Prof. Flückiger's observations have been made upon an essential oil distilled by himself from a (certainly genuine) dipterocarpus-balsam, which he found dextogyre, while Werner examined some, in 1862, which was lævogyre. Possibly also, the color reaction mentioned above may differ for some varieties of the balsam; and, besides, it is quite likely that other balsams, not obtained from dipterocarpus trees, may be employed for the same purposes, and sold by the same name. We know that in Southern India the balsam of *Hardwickia pinnata* Roxb., nat. fam. Leguminosæ, is used medicinally for balsam of copaiva; but it is not known whether it is called wood-oil. It differs from gurjun-balsam in not being fluorescent, and giving merely a yellow coloration with the above-named test.

But there is a fatty oil, also called *wood-oil*, which is used in Eastern Asia in immense quantities for painting, caulking and varnishing, and as a drastic medicine. This oil is obtained from *Aleurites cordata* Müller Arg. (*Dryandra cordata* Thunb., *Elæococca Vernicia* Spreng., *Elæococca verrucosa* Adr. Juss.), nat. fam. Euphorbiaceæ. The tree is very common in China and Japan; its Chinese name being *Tung*.* Kaempfer found it already 200 years ago in Japan under the name of *Abrasin*. The immense consumption of this oil may be estimated from the fact that during 1871 there were exported from Hankow alone over 38,000,000 pounds, not for abroad, but destined for the Eastern provinces of China. [The properties of this oil have been mentioned in the January number of this journal, p. 4.] This Chinese wood-oil resembles in many respects the singular *Axin* or *Age* of the Mexicans, which was examined by Hoppe-Seyler in 1860.† All these oils seem to coincide in the property of yielding the peculiar body "Linoxyn" described by Mulder. —*Arch. d. Pharm.*, 1876, 420.

### Brazilian Drugs.

MR. JOHN BARKER SMITH sends to the *Chemist and Druggist* of May 15, a list of Brazilian drugs whose properties are as yet but little known. The number of new simples from this source seems to be without limit.

*Erythrina corallodendron*, or "Mulunga."—Straight, cylindrical pieces of stem, often more than an inch in diameter, marked with smooth longitudinal channels; color, olive-green; the deep green mesophlœum showing through the brownish epidermis, the latter being covered with minute scales resembling excoriations, and perforated in a few places by black, flattened prickles, arising, in the larger pieces, from brown, turgid bases. Wood soft and porous, medullary rays of oblong, muriform parenchyma. Some sections were darker in color, and gave off an odor of propylamine. The diluted tincture was precipitated by tannic acid, also by acidulated tincture of iodine. Stated to contain all the properties of opium without its injurious effects.

*Mimosa virginalis*, or "Barbatimao."—Bark of variable length and width, thickness four lines, of which a fourth is tissue. Exterior with grayish lichens, deep chocolate or reddish longitudinal fissures and narrow, transverse cracks. Astringent.

* F. v. Richthofen in *Peterm. Geogr. Mittheil.* 1873, 296.

† *Gmelin, Org. Chem. vii.*, 1471.—The *Nin-fat* of Yucatan, described by Dondé (*Ph. Jour.*, April 18, 1874), probably belongs here also.

*Guazuma ulmifolia*, or "Mutamba."—Long strips of thin, flexible bark, epidermis mottled with gray and grayish white, corky layer dark brown, but little developed, bast tissue yellowish or tawny yellow.

*Tiaridium utilissimum*, or "Febegoso."—Dried plant, two feet high, stem remarkably hollow and surmounted by two or three elongated, distichous, scorpoid spikes, leaves apparently ovate, repand, with acute base and winged petiole (specimen imperfect.) Fruit osseous, ovoid, two lines long, bidentate, consisting of four achenia firmly coherent into what might at first appear to be a one-celled nut. Used externally and internally in affections of the respiratory organs.

*Guettarda angelica*, or "Angelica Mansa."—Part of stem with undulated, tapered, twisted, forked roots attached, diameter a quarter of an inch or more, wood hard, compact, yellowish-white, nearly odorless and tasteless, pale brown scaly epiblema, when scraped, especially near the stem; a strong odor of valerianate of amyl. Tonic and febrifuge; used with great success in yellow fever.

*Cyperus esculentus*, or "Junca."—Round and ficoid nut-sized tubercles of an ipecacuanha color, rough with scales and marked with transverse ridges, attached in an irregular moniliform manner to a common runner, section waxy, disclosing a large gray central portion with interspersed fibres and surrounded by a rose-tinted cork-like envelope, and brownish narrow circumscription. Odor of copaiba.

*Passiflora quadrangularis*, or "Maracuga."—Petiolated, elliptical, acuto-acuminate papyraceous leaves, six inches in length, olive-green color above, glossy and lighter green below, midrib and lateral veins distinctly marked, margin narrowly recurved, forming an apparent circumscriptional veinlet; two bud-like appendages on petiole a little below lamina; tendrils. Used in spasmodic coughs.

*Rabo de Tatu.*—Apparently the tuberculous stems of an epiphytic orchid, a foot long, one inch in diameter, fusiform, covered with a dry silver-gray, fibrous pellicle, narrow transverse bands at intervals of an inch, furrows longitudinally parallel; color yellowish green, transverse section elliptical, structure monocotyledonous, condition mucilaginous within. Used in chest affections.

Another packet of drugs contained, as it reached Mr. Smith, two very distinct herbs, and was labelled "*Mentrasto*" and "*Ageratum conyzoides:*" the first being columniferous and hoary, with alternate, petiolate, ovate, bidentate, acuminate leaves. The second plant had opposite branches and tough wood with petiolate, elliptical, serrulate leaves; on the upper part of the stems the persistent divergent pedicles of flowers or fruit remain in groups of three. Odor of the pink tribe. Used as emmenagogue.

### Russian Mineral Waters.

A CORRESPONDENT of the *Chemist and Druggist* says: "It is perhaps, not generally known that Russia possesses some of the finest natural mineral waters in the world. The springs are situated at Piatigorsk, in the Caucasus, and present several groups conveniently situated within a comparatively small area, and representing all the principal waters of Germany, France, &c., the Esentouk group being the most celebrated. One of the most noted springs in this group is No. 17, which, from its chemical composition, may be classed with the waters of Ems, Selters, Salzburg, and Lugazovich. In comparing it with Ems water it is found that one bottle of Esentouk water is equal to three bottles of Ems water, the advantage at the same time being on the side of the former as regards the contents of particles of iodine and bromine. The Caucasian mineral springs at Piatigorsk are owned by a company which provides accommodation for visitors, the season lasting from May 13 to Oct. 13. Besides the Caucasian there are other localities in Russia noted for their mineral waters. In the proviace of Grodno there are the Drouskinskz springs, and in Novgorod the Staro-Russ mineral waters.

### The Mineral Springs in the National Park Wyoming Territory.

C. L. HEIGMANN, assistant-surgeon, U.S.A., describes in *The Medical Times* of May 27th the general character of the mineral waters which are known to exist in the tract of country reserved by the Forty-First Congress as a national park. Although the springs of the Yellowstone Park may, like European and other waters be arranged in two classes, viz., sulphuretted, and strongly bicarbonated or chlorinated, they differ greatly in one respect from European waters. "This difference is basic, and consequently, it is very probable, does not alter the medicinal properties enough to destroy similarity in effect. It consists in the substitution of lime or magnesia for soda, which is universally absent, for practical purposes. The presence of strontia, baryta, lithia, or potassa is not proved, more careful analyses being necessary. The only class which is founded on the predominance of a base, viz., ferruginous waters, belong nearly all to a single group, the Green Spring Hills, and they include the sulphated and the iron manganese * subdivisions but do not contain the bicarbonated iron.† One peculiarity of the iron waters here is the high temperature of the greater number. Now, although the most common administration of ferruginous waters is internal, the utility of baths being doubtful, this may partly be attributed to the fact that an immense majority of the iron springs in Europe and America are cold and bicarbonated. Of the few exceptions the sources of Luxeuil (Haute-Saône), which are thermal, but very feebly mineralized, are yet celebrated for the successful treatment of uterine and vaginal affections. In regard to the acidulated or bicarbonated waters, it may be mentioned here that there

* Manganese exists in the red deposits of these springs.
† A carbonate is found in the deposit.

are many springs in this region which, chemically and physically, should be classed among them, but I believe that it is generally held that such sources, rising in volcanic regions, contain relatively too small a quantity of free carbonic acid, and are useless as such. Still, as there are all degrees of volcanic activity, and as one is often surprised at the unexpected amount of carbonic acid evolved, at many—Gardiner's River Springs, for example—it would be too sweeping to exclude on this ground even the strongly bicarbonated waters.* It must be remembered, however, that they are all bicarbonated lime or mixed. The chlorinated waters, as a class, have sodium, potassium, or magnesium as the principal base, and in them are generally found the iodides and bromides. There is not a bit of chemical evidence to prove the presence of a single spring with prevalent chlorinated constituents within the limits of the Park, although, undoubtedly, such exist in the neighborhood—at Camp Brown, W. Ter., for instance; still one who has tried the waters of Wiesbaden, the most celebrated of the kind, cannot help remarking a strong analogy between it and some springs in the Park, at least in physical properties and physiological effects. On the other hand, the sulphurated waters are abundant, including the soda, magnesia, and mixed. Their successful use in neuroses, neuralgias, dermatosis, rheumatism, and chronic metritis is indicated. It is mainly, however, in the prominence of an incomparable number and variety of sulphuretted springs that the Yellowstone Basin excels, and it is upon this basis that the following division of groups is made

Prof. T. B. Comstock has enumerated seventeen main groups in local order, which, for the sake of conciseness, and because, as will appear, of similar physical and chemical features, are here rearranged. In general, twelve are situated on the shores of the Yellowstone Lake, or the banks of the Yellowstone River, within a distance of fifteen miles from the lake outlet, or on streams flowing into the lake or river. Four are on the forks of Madison River, and one on Shoshonee, Heart, and other lakes and the streams which aid in forming the headwaters of Snake River. All of them are beautifully located at points excellently adapted for buildings, garden ornamentation, etc., and have within easy reach facilities for pure, cold and palatable water. The farthest removed from the outlet of Yellowstone Lake, Gardiner's River group, is thirty miles distant in direct line; the Geyser groups are about twenty-five miles from the same point. The altitude of each, compared with the level of Yellowstone Lake, is given in brackets, together with the lowest and highest temperature, Fahrenheit, of single springs observed in 1873. When the lowest temperature is not noted, it signifies that it is very variable, and due to the length of interval between eruptions or maxima of actions.

(*a*) 1. Turbid Lake group (alt. nearly same as lake: 60°–192°).
2. Warm Spring (alt. below: 100°–192°).
3. Steamboat and East Shore (alt. of lake: 100°–192°).

(*b*) 1. Green Spring Hills on Pelican Creek (alt. little above lake: 100°–124°).
2. Forest (alt. 75 feet below: 88°–170°).
3. Wayside (alt. about 500 feet above lake: 86°–196°).

(*c*) 1. Gardiner's River (alt. about 1000 feet below: 144°–164°).

(*d*) 1. Lower Geyser Basin (alt. 432 feet below: —to 200°).
2. Half-way (———: —to 200°).
3. Upper Geyser Basin (alt. 191 feet below: —to 200°).
4. Two groups on S. W. arm of Yellowstone Lake (alt. of lake above: 70°–180°).
5. Silica jets (alt. 1400 feet above: —to 194°).
7. Brimstone group (alt. 1500 feet above: 100°–180°).

Unclassified—
1 Hot Springs, East Fork Madison, belonging probably to *d*.
2. Springs at Heart Lake, etc.
3. Mud volcanoes and crater hills, belonging probably to *a*.

The general physical differences are as follows:

In the groups of *a* there is always a central pond or ponds supplied by overflow of surrounding springs, by fresh-water streams, and by immediate springlets on the shores, which show the character of the supply from the bottom of the ponds. The temperature of these common bubbling reservoirs is comparatively lower (being 60° to 70°) than that of the springs proper. In these there is a preponderance of sulphur or of argillaceous deposit; the waters are either of a muddy (salses) or milky (solfataras) character; their action appears to be intermittent within a limited range of temperature, the maximum being signified by a more than usual rise of vapor, sulphuretted hydrogen and carbonic acid gases.

*(b)* A majority of springs with colorless water commonly overflowing and forming together or adding to the current of a small stream; deposits, white, orange, and red; silica and iron more marked than in last; intermittent action uncertain; emission of vapor and sulphuretted dydrogen.

*(c)* Springs occur in terraces made up of bathing pools of comparatively soft material (carbonate of lime principally, with very little silica), usually white or superficially colored by iron or organic matters; water clear; action intermittent within very small range of temperature; emission of watery vapor and relative excess of carbonic acid.

*(d)* Geysers; water clear; forms by deposit hard conical rims (geyserite), often slightly colored

* Peale, Hayden's Report, mentions one of the older springs on Gardiner's River, as having the piquant taste and other characters of a bicarbonated water.

by iron, manganese, etc.; action intermittent, sudden, not prolonged, and within great range of temperature; constant production of small amount of vapor with carbonic acid and sulphuretted hydrogen, which is greatly increased during maximum of action.

It is necessary to remark that the geographical division into groups is not in every case strictly in accordance with the division by physical features; some of the former extend over a considerable extent of territory, and consequently may include several of the latter. This will be additionally apparent from the chemical differences; for two groups, *a* and *c*, contain waters which fall under both divisions, which markedly separate *b* and *d*.

. . . . . .

The behavior of two distinct sulphuretted waters depends on the different proportion which the sulphur, in combination with hydrogen or metals, bears to the free carbonic acid; in the waters of Weilbach, for instance, it is 1 : 24, and in that of Stachelberg, 1 : 2. Consequently, in waters like the former (I.) nearly the whole of the sulphur not combined with oxygen is present as free sulphuretted hydrogen; as the amount of this become less and less on exposure of the water to air, the separated sulphur oxidizes to sulphuric acid, which dissolves. In the latter (II.) the free sulphuretted hydrogen is hardly perceptible to the smell, and after a time, with full access of the air, a precipitate of sulphur subsides, and hyposulphites are formed at the same time. A current of carbonic acid conducted into it converts the sulphur of the sulphides in the water into free sulphuretted hydrogen. The temperature exercises also some influence in this relation between the two gases.

The first class (I.) may be termed sulphydric waters; the second (II.) are the true *epatic* waters.

In the Yellowstone region, to the sulphydric waters (I.) belong all of *b*; to the hepatic waters (II.) all of *d*. Still, it is very probable that many of the former *(b)* are *purely* what are considered simple solutions of sulphuretted hydrogen, and thus are probably independent of any chemical action with reference at least to carbonic acid gas. In regard to *a* and *c*, Fresenius's tests, applied some time after collection to several waters of each group analysed, with their deposits, show that both I. and II. are contained in all the groups. A partial explanation, I think, is found in the behavior of the different waters of the single group of *c*; for here it appears, although the results were delicate, that the older spings, those which deposited a greater amount of silica, reacted for II., while the comparatively later waters fall in I. It was also discovered that the soluble part of the mud of the mud-volcanoes belongs to II., while the waters with marked alum taste existing in groups of *a* come under I.

It may be stated in addition, according to subsequent analyses of the water,—some of which had been frozen, however,—that the waters of Class I. contained iron, alumina, and magnesia, but no lime; sulphates, but no sulphides. Those of Class II. contained all four bases, and both sulphates and sulphides. Only a few of I. contained chlorides, all of II.

"In conclusion, with reference solely to the sulphurous principles, based on the analogy of celebrated European waters, the following are the therapeutical indications of the springs of the Yellowstone Park. The sulphydric waters are applicable to catarrhal affections in general, but more particularly of the bronchial and laryngeal mucous membranes, and to those of the stomach and bladder. The hepatic waters proper are adapted to any of the three groups into which Durand-Fardel divides the applications of sulphuretted waters, in the order of their importance. To *special* applications, which are wholly due to the sulphurous quality of the water; the *dartres* or herpetic diathesis and catarrhs of the respiratory passages. To *common* applications, in which stimulation of the skin, thermality, etc., are required to aid the action of the sulphurous principles; lymphatism, rheumatism, chlorosis, syphilis, and scrofula. To *secondary* applications in which the sulphurous principles are accessory, the effects being mainly due to balneo-therapeutical processes; chronic metritis, catarrhs of the urinary organs, surgical diseases, and dyspepsia. It may be said that the National Park sulphurous waters, in general, will be found to exert their most important special actions in the skin and the respiratory mucuous membrane."

## PHARMACY.

### Strong Solution of Salicylic Acid.

SINCE the publication of our article on this subject, on page 44 (with correction on page 77) of this journal, we have received a number of communications, confirming the efficiency of our method. One of our correspondents, Wm. G. Wilson, M.D., of Shelbyville, Ill., has informed us that instead of acetate of lime, he has used acetate of potassa, and found this equally effective. In reply to this we stated that all acetates are applicable for this purpose, and indeed, one of the latest propositions is the employment of liquor ammonii acetatis; but it is to be recollected that all these solutions, in the course of about six or eight days, develop free acetic acid. (See p. 160 above.) This is, however, no drawback; on the contrary, it is an advantage; for salicylic acid is therapeutically inactive, as an *anti-ferment*, unless free, or, better still, in presence of another acid. The salt which we recommended, namely acetate of lime, is easily prepared, inexpensive, and has only feeble therapeutic powers. But, as it may not be conveniently accessible to many of our

readers, and as we know from experience that the acetates of sodium, ammonium, and potassium, which are more readily procurable, fulfil the same requirements, we once more by request publish the formula, somewhat modified, for making the solution. A very large experience has shown us that the method of preparation may be exceedingly simplified, nothing else being required but to bring the materials together, and to shake a few times.

*Formula of Solution.*

| | | |
|---|---|---|
| Salicylic acid | | 1 3 |
| Potassium* acetate | | 1 3 |
| Glycerine | | 1 fl 3 |
| Water | q. s. ad. | 1 fl. 3 |

Mix, and dissolve by shaking. This solution contains one grain of salicylic acid in eight minims; but may be made even stronger, as the limit of solubility has not by any means been reached.

This solution has taken the place of all others in the practice in Bellevue and other hospitals, and from reports received from the physicians, it appears to act more rapidly and to be more easily borne than any other. In cases of acute rheumatism especially, has it been found very effective, much more so than the mixture formerly used of salicylic acid and bicarbonate of sodium.

CH. R.

### Chemical Analysis of Grindelia Robusta.

ONE pound of Grindelia robusta (herb) was exhausted with a hydro-alcoholic menstruum by percolation, and the percolate reduced by evaporation to about eight fluid ounces. The remaining liquid was treated with caustic alkali in excess, and then agitated with several times its volume of ether, the ether separated and allowed to evaporate. The oleoresinous mass thus obtained had the physical appearance of balsam of tolu, and in odor resembling resin of turpentine. By dry distillation it yielded a volatile oil, the odor of which resembled oil of turpentine. Part of the oleoresin thus obtained was treated with dilute nitric acid and filtered, the filtrate decomposed with caustic potash and agitated with ether, the ether separated and allowed to evaporate spontaneously. A solution of the mass thus obtained had a distinct alkaline reaction, and under the microscope showed well-formed prismatic crystals.

The alkaline fluid from which the base and oleoresin had been extracted by means of ether was now treated with dilute sulphuric acid, in order to obtain the organic acid present. Sulphuric acid being added until the solution had a distinct acid reaction, the acid solution was then agitated with several times its volume of ether, the ether separated and allowed to evaporate. The residue was then exhausted with distilled water, in order to separate the acid from any resinous matter that had been extracted with it by ether. The aqueous solution thus obtained had a distinct acid reaction, completely neutralizing alkalies and forming salts. The solution of these salts had a yellow color. Under the microscope the acid showed well-formed acicular crystals.

Time not permitting me to make a further investigation of the acid and base of this drug at present, at some future time I will make a further chemical examination, and also upon what part of the drug its physiological and active properties depend.—C. J. RADEMAKER, M.D.—*Chic. Pharmacist* from *Louisville Med. News.*

### Amyrin.

THE constituents of Elemi have been shown by Prof. F. A. Flückiger, to be mainly *Bryoidin:* a small quantity of a crystallizable substance, having the composition $(C_{10}H_{16})_2+3\,H_2O$, and another, termed *Amyrin*, constituting the chief portion of the drug. This name is not inappropriate, as the genus Amyris, which we know is not the source of the elemi of our days, belongs to the natural family of Burseraceæ, and probably yields the same crystalline resin as the still unknown tree, which exclusively furnishes the elemi of the present commerce.*

Amyrin is contained in Elemi in form of microscopic prisms, which remain, when elemi is treated with cold alcohol of 90 per cent. which dissolves the other constituents. It is purified by recrystallization from boiling alcohol, until it appears entirely colorless, and yields nothing more to boiling water. It crystallizes from its solution in hot alcohol, on cooling, in colorless doubly refacting needless, forming globular groups of silky lustre. It is also soluble in ether, and especially so in chloroform and carbon disulphide. One part of amyrin is soluble in 27.57 parts of alcohol of 92.5 per cent. Its composition was ascertained to be $C_{25}H_{42}O$.—E. BURI in *Buch. N. Rep.* 1876, 193.

### Volumetric Estimation of Alcohol.

WHEN a salt of cobalt is added to an alcoholic solution of sulphocyanide of ammonium, an intense blue color is produced. This color rapidly disappears on the addition of water, and returns on the addition of alcohol. The same percentage of alcohol and volume of liquid, with the same amount of standard blue solution, always has exactly the same intensity of color, in whatever order the alcohol and water are added.

It is possible to rapidly determine volumetrically, to about one-quarter per cent., the quantity of alcohol in mixtures by this reaction. If we put into a large mixing cylinder a measured quantity of the dark standard blue solution and pour upon it the mixture to be tested until the tint matches that of a strip of very pale blue glass, the volume of liquid so tinted will be greater as the mixture is stronger in alcohol. These volumes once determined would always hold good, and the per-

* Or Calcium—, or Sodium—, or Ammonium acetate.

* See *Pharmacographia*, p. 129.

centages being marked upon the cylinder, could be read at once. The standard blue should always be made with alcohol of the same strength, and standardized by the same strip of blue glass used in the actual analysis.

Nitrate of cobalt is very suitable to produce the color, which appears to be very permanent.

Colored whiskey or brandy can be directly tested in this way, but the color is of course green, so that two cylinders containing the sample must be used—one for the dilution and one to place in front of the strip of glass to give it the same color.

This blue coloration is often a more delicate and convenient test for cobalt than Schönn's similar test. For this use, the cobalt solution may be neutral, or slightly acid, and should contain as little water as possible.—T. T. MONELL, in *Am. Chemist.*

### Preparation of Platinum-Black by means of Glycerine.

ON heating a solution of platinic chloride, containing glycerine, to boiling, it first turns dark red, owing to the reduction of the platinic to platinous chloride; after a few seconds it becomes black through separation of metallic platinum, which is first kept in suspension in the liquid, but soon deposits at the bottom. This variety of platinum-black, after washing and drying, is more gray than black, and of very low activity.

Another variety, however, of great catalytic energy, is obtained by reducing the chloride in alkaline solution. For this purpose, it is best to heat 15 c.c. of glycerine of 25-27° B. (or spec. gr. 1.210 to 1.230), and 10 c.c. of potassa solution, spec. gr. 1.080, to boiling, and to drop into the boiling liquid 3 to 5 c.c. of platinic chloride solution, of the strength usually employed in analysis. Metallic platinum is in this case deposited immediately, either as a black powder or as flaky precipitate. The boiling is continued for a few minutes, until the precipitation is completed, the supernatant liquid decanted, and the precipitate washed first with boiling hydrochloric acid, then with water.

It is not necessary to strictly observe the above-given proportions; but it must be remarked that in presence of *excess* of potassa, metallic platinum is deposited in form of a mirror; with a small quantity of potassa (two-thirds of that of glycerine), however, no mirror is produced, and the precipitate settles rapidly, so that the supernatant liquid may be immediately decanted.—MILAN R. ZDRAWKOWITCH in *Ann. d. Chem.* 181, 193.

### Salicylic Cotton.

IN the antiseptic treatment of wounds, cotton, impregnated with salicylic acid, has for some time been employed instead of Lister's preparations. For this purpose, clean white cotton, previously deprived of oil by means of soda, and afterwards well washed, is selected and made to take up a definite quantity of the acid. To prepare a cotton containing 10%, Rennard recommends the following method: Dissolve 2 parts of salicylic acid in 15 pts. of alcohol, of 80%, mix with 35 parts of water, at a temperature of 25-30° C. (77-86° F.), in a porcelain capsule, and introduce into it 10 parts of prepared cotton, which will soak up the whole of the liquid. By working it with a pestle, the liquid is equally divided over all parts of the cotton. The latter is now pressed, until 25 parts of liquid have been separated, which is used to impregnate a second portion. [It is just as easy to take at once 20 parts of cotton, which are gradually incorporated with the solution.—ED. N. R.] The resulting moist cotton must be dried at the *ordinary temperature*, in a place *free from dust*; otherwise it will assume a faint reddish color, which, however, does not necessarily impair its value.—*Pharm. Z. f. Russl.* 1876, 33.

### New Reagent for Acids and Alkalies.

WHILE preparing some derivatives of picric acid, Mr. Frébault remarked that the picramates* of potassium, sodium, ammonium, and calcium, form very delicate reagents for alkalies and acids, and may be employed advantageously in place of litmus. These salts, which have a fine *red* color, turn *greenish-yellow* under the influence of even highly dilute acids; alkalies restore the red color. The author states that he has preferably employed a solution of calcium picramate, or paper impregnated with it. This may be prepared by reducing picric acid, dissolved in alcohol, by ammonium sulphide in excess, whereby ammonium picramate is formed, from which the lime salt may be easily prepared, which latter is more stable. The solutions of these salts have a magnificent red color; and paper dipped therein and dried, is an excellent substitute for litmus paper.—*Journ. de Ph. et de Ch.* 1876, 263.

### Sensibility of Silver Bromide and Iodide.

PROF. HERM. W. VOGEL has just published some very interesting results of new observations made on the influence of certain coloring agents upon the photographic energy of sensitized plates. From his paper (in *Ber. d. deutsch. chem. Ges.* 1876, 667), which we recommend to our photographic friends for careful perusal, we abstract the following peculiar behavior of silver bromide and iodide:

Silver bromide prepared by double decomposition, with an excess of potassium bromide, is, even after careful washing, much less sensitive than if prepared with an excess of silver nitrate. Prof. Vogel distinguishes the two varieties by calling the first AgBr $\beta$, and the latter AgBr $\alpha$. But the behavior of these two varieties of silver bromide towards so-called sensitizing agents (such as tannin, silver nitrate, morphia, potassium ferrocyanide) is just the reverse: all these agents, namely,

* Picramic acid $C_6H_2(NO_2)_2(NH_2)O$, is derived from picric acid, $C_6H_2(NO_2)_3O$, by the substitution of $NH_2$ for 1 mol. of $NO_2$.

increase the sensibility of silver bromide, prepared with excess of potassium bromide (or AgBr $\beta$), in an extraordinary degree. A plate prepared with silver bromide of this latter variety was washed, treated with a very dilute solution of naphthalin-red, and dried. It showed a very marked sensibility for blue and violet, but *none whatever towards yellow.* But after dipping a plate, prepared with the same silver bromide, into a solution of silver nitrate (or of tannin, or of morphia), and treating with naphthalin-red as before, the sensibility for yellow will be found to have reappeared in a very high degree.

#### Syrupus Cinchonæ Alcoholicus.

OUR English exchanges speak of a new pharmaceutical preparation by Mr. Schacht, well known among British pharmacists: Mr. Schacht's object being to present in a concentrated and at the same time agreeable form, all the virtues of Peruvian bark; to obtain, in fact, a preparation which should be exactly equivalent to the cinchona, minus the wood fibre. At the Pharmaceutical Conference, in 1874, Dr. DeVrij stated that such a preparation was only possible by means of extraction with alcohol. On this basis Mr. Schacht has experimented and he now offers an alcoholic syrup, which in odor and flavor is a very striking reproduction of the finest cinchona. Each fluid-drachm is said to contain the medicinal properties of 20 grains of Peruvian bark.

#### Glycerole of Subacetate of Lead.

MR. C. D. PARRY furnishes the following as a supplement and improvement to the formula of this preparation, proposed by Mr. Balmano Squire (see our July number, pp. 171 and 174):

I beg to submit a much easier method of making the glycerole of subacetate of lead, invented by Mr. Squire.

Mix equal portions of liq. plumbi subacetatis and glycerine in an open dish, and evaporate by gentle heat until the water is driven off. When the glycerine is reduced to its original bulk, it may may be poured into a bottle, filtering not being necessary. Should the strength be objected to, I think it may be increased two or three times, if necessary.—*Pharm. Journ. and Trans.* May 27.

#### Occurrence of Gallium.

MR. LECOQ DE BOISBAUDRAN has examined a great number of zinc-ores for gallium, and has for the present divided them into the following groups:

1. Rich gallium-ores: Black blende of Bensberg (pits "Apfel and Lüdrich" and "Gallerie Franzisca"), near Cologne, in Rhenish Prussia, is the richest so far observed. Less rich is the yellow transparent blende of Asturia, and still less the brown blende of Pierrefitte (Argelès).

2. Poor gallium-ores: Zinc-dust of the ores of Vieille-Montagne and the dust of the roasting furnaces of Corphalie. Very poor are the blendes of Mandesse (Gard), of Sweden, of Schwarzenberg (Silesia), and of Nouvelle-Montagne.

The list concludes with those zinc-ores which were found to be destitute of gallium. We do not find any American zinc-ores mentioned, and we would suggest to those who have the facilities and inclination, to examine our native ores for gallium.

At the meeting of the French Academy, on May 1st, Mr. Wurtz exhibited, in the name of Mr. Lecoq de Boisbaudran, the first specimen of pure metallic gallium, weighing about 0.1 grm. This was obtained from 431 kilos of various minerals; besides this the discoverer possesses yet 0.2 to 0.3 grms. of impure gallium.

#### Resin from Coal-Tar.

THE utilization of waste products has justly been regarded as embracing the greatest chemical discoveries of the present age; now nothing is wasted in the arts; no matter how impure, however uninviting in appearance, it is made by the science of the chemist to subserve some useful purpose, though often so changed by its magical influences as to be unrecognizable when contrasted with the substance from which it was derived; for instance: Coal tar now furnishes ammonia, carbolic acid, and the beautiful aniline colors. Naphthaline, at one time a worthless product, is now manufactured into dye colors. Alizarine, the artificial "madder" which is fast superseding its rival, derived from the madder plant, and enabling thousands of acres of land to be devoted to the cultivation of other crops, is made from a coal tar derivative. Innumerable other instances might be given. A waste product from the petroleum refineries has for a long time been thrown away, all attempts to find any possible use for it having failed. It is a black, tarry substance, with a persistent odor. This tar is now thrown into the East River from the chemical works near Hunter's Point. It is apparently indestructible, and floats on the surface of the water, swept back and forth by the tide, giving off continually its intolerable odor, which seems to be inexhaustible. This tar floats ashore on the marshes and mud flats, where, exposed to the sun at low tide, it distils off in gases, which contaminate the air for miles around, as the inhabitants of Murray Hill can testify. Altogether there is scarcely in the whole range of chemical waste products, a more disgusting substance or a more worthless and intolerable nuisance. The public having for some time suffered from this nuisance, will hail as a benefactor the person who proposes to change this worthless tar, into a useful and odorless substance.

A process has been discovered and patented by Prof. Walter P. Jenney to utilize this tar, and convert it into a resin resembling shellac somewhat in properties and appearance, and possessing many new and valuable properties, which indicate that it will soon take its place among the resins and varnishes in the market. This new resin is dark garnet-red in color; when bleached it is a

fine golden amber; is tasteless, odorless, fuses at a higher temperature than shellac, and is insoluble in dilute acids, but dissolves in concentrated sulphuric acid; it is unattacked and insoluble in alkalies, even fusing caustic soda has no action on it. It is soluble in oils, coal tar, naphtha, in benzole, chloroform, ether, bisulphide of carbon, and in petroleum naphtha, but not in alcohol or water.

When made into a varnish with suitable solvents, it leaves on drying a brilliant and permanent film, which shows a remarkable adhesive property, and not the slightest tendency to crack off, a thin coat of it renders cloth or paper as waterproof as rubber; in fact it dissolves rubber either pure or vulcanized. For japanning tin or iron ware, it is even superior to shellac or linseed oil alone, the surface being hard and wonderfully pliable. On tin ware it produces with linseed oil a beautiful golden enamel, which a few hours baking in an oven makes fine and adhesive.

Samples may be obtained from Cowperthwait & Co., No. 62 Beaver street.

### Borax Mines in California.

The deposit of borax—Borax Lake in San Bernardino County—at Slate Range, is probably the largest in the world. From Mr. J. M. Miller, who has an extensive interest there, we learn that 100 tons of concentrated borax are being shipped per month to San Francisco, viâ the Southern Pacific Railroad, which is shipped for $50 per ton from the lake through. The lake is about twelve miles long and five miles wide, and 200 miles northeast of this place. There is a very light deposit all over the lake, but the main deposit covers about 2,400 acres of land. The specimens we have seen are exceedingly fine, and the crystals are beautiful. When the Southern Pacific Railroad is completed, there will be about sixty miles of waggoning. The projected Salt Lake road will run through the lake. There are beds of salt of all colors, and beautifully crystallized. There are crystals which can be dug up, weighing 100 pounds. The lake is one of the rare freaks of nature, and probably has no counterpart on the globe, and produces a borax superior to any discovered.—*San. Fran. Com. Herald.*

### The Constituents of Ergot of Rye.

Prof. Dragendorff, of the University of Dorpat, having stated in a communication to the Pharmaceutical Society, received in March, 1875, that he had succeeded in isolating the active principle of ergot, a request was made to him for further information. To this request he has responded by sending a paper, which was to have been read at an evening meeting of the Society, and was accompanied by specimens of the several bodies referred to. As, however, the next evening meeting available will not take place until November, it has been thought best to publish the paper at once. The specimens are deposited in the museum of the Pharmaceutical Society. On account of the high value of the results obtained, we copy the paper (from the *Phar. Journ. and Trans.*, June 17) just as received:

In association with Herr Stud. Padwissotzky I have been engaged in the chemical examination of ergot, and I believe we have succeeded in isolating the active principle. Our experiments have also yielded to us in a pure condition the coloring matter occurring in ergot. Whilst I beg leave to lay before the Pharmaceutical Society specimens of the products we have obtained, and postpone a detailed description of them for a German journal, I would wish to submit to the Pharmaceutical Society the following notes respecting their more important properties.

(1) Coming specially under consideration as an active constituent of ergot is (*a*) a slimy substance which goes into solution upon extraction of the ergot with water, and which is again precipitated by 40 to 45 per cent. alcohol. It is colloidal; after being once dried it is with difficulty soluble in water, and it holds with the greatest energy ash constituents from which it might not have been freed. This substance has been named by us Scleromucin. It contains nitrogen, but gives no albuminoid reaction, nor any reaction of an alkaloidal or glucosidal body. Together with 8.26 per cent. of moisture and 26.8 per cent. of ash, it gave 29 per cent. of carbon, 6.44 per cent. of hydrogen, and 6.41 per cent. of nitrogen. We do not consider this substance is to be recommended for therapeutic use, as it is only partially soluble in water after becoming once dried.

In ergot there also occurs from 2 to 3 per cent. of a substance (*b*) similarly soluble in water, which is also soluble in cold 45 per cent. alcohol, and even, in boiling 75 per cent. alcohol; this, on account of its weak acid properties, we have named Sclerotic Acid. It passes in association with other constituents of the ergot extract into the diffusate, when the extract is submitted to dialysis; but after its separation in a pure state it is, like scleromucin, colloidal. It is precipitated by 85 to 90 per cent. alcohol, together with lime, potash, soda, silica, and manganese; but after maceration with hydrochloric acid the greater part of the ash constituents can be separated by a fresh precipitation with absolute alcohol. The sample analysed by us had only 3 to 4 per cent. of ash, and contained 40 per cent. of carbon, 5.2 per cent. of hydrogen, 4.2 per cent. of nitrogen, and 50.6 per cent. of oxygen.

Sclerotic acid forms with lime a compound that is not decomposed by carbonic acid, and which, upon combustion, leaves 19 to 20 per cent. of calcium carbonate. Its reactions, both qualitative and quantitative, are similar to those of scleromucin. The subcutaneous injection of 0.02 to 0·04 gramme brings frogs gradually into a state of perfect palsy, accompanied by a peculiar swelling, that may last six or seven days. In recommending our sclerotic acid most strongly for therapeutic use we believe we are justified, in the presence of

its easy solubility in water, and the fact that it occasions no kind of disturbance in the cellular tissue lying under the skin. Professor von Holst, the leader of the gynæcological clinic in this country, has used our sclerotic acid almost uninterruptedly for a year and a half (with the human subject subcutaneously 0·04 to 0·05 gramme), and is thoroughly satisfied with its action.

The sclerotic acid also yields no reactions from which albuminoid, alkaloidal, or glucosidal properties could be inferred. It is tasteless and without smell, and can be prepared almost colorless and but slightly hygroscopic. For those who might wish to experiment upon the therapeutic action of sclerotic acid, it may be here stated that it is prepared according to our instructions at the chemical manufactory of Dr. Fr. Wittee, Rostock, Mecklenburg, Germany.

(2) The red coloring matter which is utilized in the forensic chemical determination of ergot is, for the most part, deposited as a (lime) compound insoluble in water and alcohol. It is carried into solution by alcohol after treatment of the powdered ergot with an aqueous solution of tartaric acid; but loses in the subsequent purification a very considerable proportion, which changes into a brown resinous substance. This coloring matter, of which unfortunately we have not hitherto been able to get a large quantity in a pure state, we have named Sclererythrin. It is insoluble in water; in dilute and strong alcohol, ether, and chloroform, and also in dilute aqueous solutions of caustic potash, ammonia, etc., it is easily soluble. Its solutions in alkalies are of a beautiful murexid color. When these are decomposed by an acid and shaken with ether, the sclererythrin is taken up by the ether. Alcoholic solution of sclererythrin gives with aluminum sulphate and with zinc chloride a splendid red mixture; with salts of calcium, barium, and many of the heavier metals it gives a blue precipitate. We suspect in sclererythrin a derivative from anthraquinone, standing in near relation to crysophanic acid and alizarine. The amount of this otherwise not quite inactive substance in the mature ergot is very small. It amounts in any case to only about one-tenth or one-twentieth of a part per thousand.

(3) With sclererythrin is obtained a small quantity of another coloring matter similar to it, which after being once isolated is not soluble in alcohol, ether, chloroform, or water; but it dissolves with a splendid violet color in potash solution, and from this solution is again precipitated by acetic acid. By potash solution it can be extracted from ergot residue that has been exhausted with water, alcohol, and ether, in which it amounts at the most to one part in one thousand. Concentrated sulphuric acid dissolves it with a handsome blue violet color, and on this account we have named it Scleroiodin. Its analysis gave 64.88 per cent. of carbon, 5.5 per cent. of hydrogen, 3.87 per cent. of nitrogen, and 25.50 per cent. of oxygen. This substance also is slightly active and similar to sclererythrin. Probably it represents a decomposition product of sclererythrin, originated by acids and ammonia, but which in any case is formed in the ergot.

(4) From the ergot powder treated with aqueous solution of tartaric acid, after the sclererythrin and a small portion of the scleroiodin have been extracted by alcohol, ether takes up a mass, which upon the evaporation of the ether is obtained partly as almost colorless needles and partly as citron-yellow tabular crystals and plates. The needle-shaped crystals, which we have named Sclerokrystallin, can be purified by recrystallization from chloroform. Sclerokrystallin is almost insoluble in water and alcohol and difficultly soluble in ether, but it is taken up by caustic ammonia and potash solutions. Its analysis gave 61.11 per cent. of carbon, 4.91 per cent. of hydrogen, and 66.98 per cent. of oxygen, from which probably the composition $C_{10}H_{10}O_4$ might be concluded.

The yellow crystalline substance we have named Scleroxanthin. It is a hydrated compound of sclerokrystallin, and probably its composition may be represented by the formula $2C_{10}H_{10}O_4+3H_2O$. Upon analysis it gave 13 to 14 per cent. of water, and the anhydrous portion gave 61.29 per cent. of carbon, and 4.76 per cent. of hydrogen. By heating with chloroform it can be converted into sclerokrystallin, which can also be brought back again to scleroxanthin. Both substances appear to be without effect upon frogs.

(5) In the preparation of the coloring matter we met with yet another yellow substance, amorphous, and soluble in fats and chloroform, but which, as we were not certain as to its purity, was not further examined.

(6) The same remark holds good for a brown resinous substance, which dissolved in fat and in alcohol. Like the substance indicated under (5) it appears not to act poisonously upon frogs.

(7) Wenzel's alkaloids. We have isolated ergotine and ecboline, but found them almost inactive upon frogs. We consider it not improbable that they are identical with each other. Obtained by Wenzel's method, moreover, they are not quite pure.

(8) Tanret's ergotinin* was also prepared by us, but we have not been able to come to the conclusion that it represents a chemically distinct substance. We found in it admixtures of our sclererythrin and other substances. To the sclererythrin we must attribute the reaction with sulphuric acid, described by Tanret, which we also have observed; and to it also, according to our opinion, Tanret's ergotinin owes its not very energetic action upon frogs.

The specimens forwarded by us represent:—

1. Sclererythrin;
2. Resinous Decomposition-product of Sclererythin;
3. Scleroiodin;
4. Scleroxanthin;

* See the February number of this Journal, page 24, where the name of the author has wrongly been given as Fanret.

5. Sclerokrystallin ;
6. Sclerotic Acid ;
7. Calcium Sclerotate ;
8. Scleromucin.

## RECENT PAPERS.

**Canad. Pharm. Journ.** May.—E. GREGORY: "On an application of the Syphon to the process of Filtration." [Recommending a syphon constructed by slipping a rubber tube of ¼ inch bore over the nozzle of a male syringe, from which the piston and cap have been removed, instead of which a piece of filtering paper is tied over the wide end. The springe is introduced into the bottle, and the other end hangs outside. It is started by gentle suction.]

June.—"Treatment of Acute Articular Rheumatism by Salicylic Acid," by Dr. Stricker (transl.). [The recapitulation of the results is as follows: 1. Observations made for many months prove that articular rheumatisms have always been treated with great success by salicylic acid. 2. The effect of the remedy is produced generally at the end of 48 hours. 3. Even before this time, with many patients, the temperature is lowered, and, what is more remarkable, the local manifestations, such as swelling, redness, and especially pain, have disappeared. 4. Salicylic acid, beyond its antipyretic virtues, is the most efficacious remedy, perhaps the only radical one, against acute rheumatism. His method of administration is to give 0.5 to 1 gm. (7–15 grs.) every hour, in the form of powder, given in unleavened bread.]

**Amer. Journ. of Pharm.** June.—MARK W. HARRINGTON, M.A.: "Powdered Drugs under the Microscope." [After some preliminary remarks on the microscope, its use, and the manner of making sections, the author proceeds to the consideration of starches. *Potato starch* varies much in size, due probably to unequal development, the youngest being smallest, the greatest length being about 50 tt. (this is the author's very convenient method of denoting "*ten-thousandths* of an inch"). The form is usually oval, egg-shaped, cylindrical or round-triangular.]—EB. M. WELLS: "Analysis of Cincho-Quinine." [Two samples were analyzed and found to contain 4.40 per cent. and 5.42 per cent. respectively of quinia, quinidia and cinchonidia, and 83.267 per cent. and 84.97 per cent. of cinchonia. Prof. Maisch appends the remark that a compound as closely as possible approaching the composition of cincho-quinine may be obtained by mixing together 7.5 grains of quinia sulphate, 20 of quinidia sulphate, 12.5 of cinchonidia sulphate, 180 of cinchonia sulphate, 780 of cinchonia, and 54 of ammonium sulphate.]—G. W. KENNEDY: "Analysis of Spiritus Ætheris Nitrosi." [Ten samples of sweet spirits of nitre were examined; of the results we will only quote that 2 were free from acid, 3 were highly and 5 slightly acid; the percentages of ethyl nitrite were 4.6, 4.1, 4.2, 3.2, 3.5, 3.1, 2.9, 3.9, 4.0, and 4.5.]—G. H. CHARLES KLIE: "Extract of Jalap." [The author recommends the adoption of the following method, in order to obviate the clogging of the powdered root in the percolator by the water used in its final exhaustion: Place the whole root into a vessel with perforated bottom, and suspend it in a vessel of water in such a manner that all of the root will be immersed in it. The heavy infusion will sink to the bottom, and after some time all the water will be saturated, whereupon the root must be suspended in a fresh quantity of the menstruum, and this repeated until it is exhausted. Now the root is superficially dried, pounded into a fine mass, packed moderately firm in a percolator and displaced with alcohol. For 1 pound of root 4 pints of alcohol are sufficient. When percolation ceases, the alcoholic tincture remaining in the root is displaced by water, which only takes a short time. The yield by this process was found to be 9 ounces of extract from 1 pound of root, or 56 per cent. The alcohol may be almost entirely recovered by distillation.]—W. E. BIBBY: "The pharmaceutical value of Sugar of Milk." [The author recommends the admixture of powdered sugar of milk to powdered gums, resins and other substances, to prevent them from caking. For 90 parts of *gum guaiac.* and *squill* he advises to employ 10 parts of sugar of milk. *Powdered camphor* may be made and kept, as follows: rub 90 grains of camphor with 30 drops of alcohol until reduced to a fine powder, then add 10 grs. of sugar of milk. He also prepared *Blue Mass*, of pilular consistence, as well as in the form of powder, and *Mercury with Chalk*, by the intervention of sugar of milk alone.]

**The Pharmacist.** June.—G. W. HOYT: "Tinctura Ferri Chloridi." [Analysis of 13 samples, containing from 3.9 to 7.5 grs. of ferric oxide in 2 fl. drachms (standard contains 7.062 grs.), and from 21.1 to 83.1 per cent. of alcohol (standard contains 67.12 per cent.)]—C. J. RADEMAKER, M.D. "Chemical Analysis of Grindelia Robusta." (See page 206.)

**Journ. Chem. Soc.** April.—THOS. CORNELLY: "On high Melting Points, with special reference to those of Metallic Salts." [The author describes a new method of determining the melting points of metallic salts, or any substance which does not volatilize at the melting point, and does not attack the platinum crucible employed. The main features of the method are the heating of a small quantity of the substance in a small platinum capsule, which when the substance has been melted, acquires the same temperature and is immediately plunged into a known weight of water of known temperature; the increase of temperature being carefully observed, the initial temperature of the crucible, at the time the salt was melted, is calculated by means of the equation for specific heats. The melting points of some of the more common substances operated on are: Silver nitrate 224° C. (435.2° F.), mercuric chloride 302° C. (575.6° F.), potassium nitrate 353° C. (667.4° F.), sodium iodide 633° C.(1171° F.), potassium iodide 639° C. (1182° F.), potassium bromide 703° C. (1297° F.), sodium bromide 712° C. (1313° F.), calcium chloride 723° C. (1333° F.), sodium cloride 776° C. (1429° F.), sodium sulphate 865° C. (1589° F.)]

**Buchner's Rep. f. Pharm.** IV.—DR. E. BURI: "Contributions to the Knowledge of Elemi" (See p. 206). DR. BINZ: "On the Decomposition of Sodium Salicylate." [The author shows that a simple solution of the salt, when shaken with ether, does not yield anything soluble to the latter; in other words, it remains undecomposed and no salicylic acid is set free. But on exposing the same solution at ordinary temperature to the air, the carbonic acid of the latter sets free a corresponding amount of salicylic acid, which may now be shaken out with ether. He therefore concludes that it is not correct to consider sodium salicylate as inactive, when taken into the organism; on the contrary the nascent carbonic acid in the blood is capable of setting free an equivalent quantity of salicylic acid, whereby the latter may exercise its antiseptic powers. The same thing happens to sulphites and hyposulphites, which are also decomposed by carbonic acid.]

**Liebig's Annal d. Chem.** Vol. 181. No. 2.—A. C. OUDEMANS, JR.: "On the milky juice of Plumiera acutifolia and on Plumieric Acid." [*Plumiera acutifolia* Poir., nat. fam. Apocynaceæ, contains a milky juice, of acid reaction and very bitter taste. Altheer, in 1862, announced the discovery therein of three homologous acids. Oudemans, however, finds that it contains only one acid, associated with calcium. He retained for it the name of *Plumieric Acid* and found its formula to be $C_{10}H_{10}O_8$]—R. GODEFFROY: "Atomic weights of Cæsium and Rubidium." [The values, deduced from very careful analyses of the chemically pure chlorides, are: Cæsium 132.557, or short 132.6. Rubidium 85.476, or short 85.5.]—M. R. ZDRAWKOWITCH: "Preparation of Platinum-Black by means of Glycerine." (See p. 206).

**Ber. d. deutsch. chem. Ges.** No. 8.—H. STRUVE: "Preliminary Note on the Occurrence in the animal Organism of a new Body showing the same Absorption-spectrum as Blood." [On exhausting meat—preferably, fat beef or

veal—with ether, concentrating the ethereal solution, and allowing the excess of fat to deposit by cooling, the supernatant clear solution, examined by the spectroscope, showed the same absorption bands as hæmoglobin (compare above, p. 142, the spectrum indicated by No. 5 in the cut), but differing from the latter by the fact that reducing agents had no influence upon it.]

No. 9. N. GERBER: "New apparatus for the determination of fat in milk, etc. [The author coagulates the diluted milk, filters, and uses the filtrate for the determination of sugar. The coagulated milk-albuminates (casein and albumin) are treated in an apparatus, being a displacement-funnel, receiver and reflux condenser combined, with ether until completely exhausted; the ether is distilled off and the residuary butter weighed. The exhausted albuminates are dried and likewise weighed. The determination of ash or salts appears to be conducted in the usual manner.] H. W. VOGEL: "Sensibility of Silver Bromide" (See p. 207). —E. HOFFMAN: "Hesperidin '*de Vry*'; Aurantiin; Murrayin." [*Hesperidin*, $C_{29}H_{36}O_{19}$ is contained in almost all parts of *Citrus Aurantium*, *C. Limetta*, and probably other species of Citrus. *Aurantiin* (or Hesperidin 'de Vry',) $C_{29}H_{26}O_{19}+4H_2O$, is contained in the flowers of *Citrus decumana*; *Murrayin*, $C_{18}H_{22}O_{10}$, is contained in the flowers of *Murraya exotica*.]

**Zeitsch. d. Oest. Apoth. V.**—No. 13. FISCHER and MÜLLER: "How long after Death may Phosphorus be found in the Body." [Experiments were made with four rabbits, poisoned under identical circumstances with 0.023 grm. phosphorus. No. 1 was exhumed after one month, and 0.005 grm. of unoxidized phosphorus was still found present; in No. 2, which was exhumed after two months, they yet found 0.003 grm.; in No. 3, after three months, and in No. 4, after four months, only oxides of phosphorus were detected.]—No. 14. L. GEYER: "On a genuine Chinese tooth-powder." [On analysis, this was found to contain about 95 per cent. of pumice stone, the rest being powdered cloves, cochineal, and patchouli.]

**Pharm. Zeit. f. Russl.**—E. RENNARD: "Salicylic Cotton." (See p. 207)

**Pharm. Centralb. 11.**—HAGER: "Standard Abbreviations in common use (espec. in Dingler's Polyt. Journ.) for denoting certain Weights, Measures, and other Values." [Uniformity in such notations being very desirable, and the terms being of so frequent occurrence, we insert the list in this place for general imitation:]

| | | | |
|---|---|---|---|
| 1 Kilometer, | $1^{km}$ | 1 Liter, | $1^{l}$ |
| 1 Meter, | $1^{m}$ | 1 Cubic centimeter, | $1^{cc}$ |
| 1 Centimeter, | $1^{cm}$ | 1 Ton (1000$^{k}$) | $1^{t}$ |
| 1 Millimeter, | $1^{mm}$ | 1 Kilogramme, | $1^{k}$ |
| 1 Hektar, | $1^{ha}$ | 1 Gramme, | $1^{g}$ |
| 1 Square meter, | $1^{qm}$ | 1 Milligramme, | $1^{mg}$ |
| 1 Ar (square dekameter) | $1^{a}$ | 1 Meterkilogramme, | $1^{mk}$ |
| 1 Square centimeter, | $1^{qc}$ | 1 Horsepower ("effect") | $1^{e}$ |
| 1 Square millimeter, | $1^{qmm}$ | 1 Atmosphere, | $1^{at}$ |
| 1 Cubic meter, | $1^{cbm}$ | 1 Mark, German, | 1M |
| 1 Hektoliter, | $1^{hl}$ | 1 Penny, German, | 1Pf |
| 1 Caloric, | $1^{c}$ | | |

No. 18. G. WITZ: "Percentage of solid albumen in egg-albumen solutions." [The following table will be found very useful. The albumen is calculated to have 15 per cent. of hygroscopic water:]

| *Albumen %.* | *Spec. Gr.* | *Albumen %.* | *Spec. Gr.* |
|---|---|---|---|
| 1 | 1.0026 | 25 | 1.0644 |
| 2 | 1.0054 | 30 | 1.0780 |
| 3 | 1.0078 | 35 | 1.0919 |
| 5 | 1.0130 | 40 | 1.1058 |
| 10 | 1.0384 | 45 | 1.1204 |
| 15 | 1.0515 | 50 | 1.1352 |
| 20 | 1.0644 | 55 | 1.1511 |

At 17.5° C.

No. 19. "Fatal effect of Injection of Chloral." (See p. 214).—No. 22. J. BIEL: "On Sublimed Salicylic Acid." [The author cautions against the use of the sublimed acid, because it soon begins to split up into carbonic and carbolic acids, which may be proved by passing a stream of air, freed from $CO_2$, through a bottle containing such acid, under proper precautions, not to carry any of latter over mechanically, and receiving it in standard baryta-solution. Dr. Hager has been informed that the "Chemische Fabrik auf Aktien" (late E. Schering) will soon place upon the market a "*Salicylic Acid purified by Dialysis.*"]

**Répert. de Pharm.** No. 10.—A. LAILLER: "On Mahonia ilicifolia." [This shrub, belonging to the natural order of Berberidaceæ, bears a fruit containing 85 per cent. of a juice which may either be used unfermented as an addition to syrups or lemonade, or may be fermented into a pleasant wine.]

**Archiv d. Pharm.** May.—TH. HUSEMANN: "Studies on some less known Poisons." [*Thevetia neriifolia*, Juss., and *Cerbera Odallam*, Ham., both belonging to the nat. fam. of Apocynaceæ, contain a glucoside, *Thevetin*, which splits up, on boiling with dilute acids, into glucose and *Theveresin*. Both bodies are eminently poisonous, acting upon the heart, and closely related to Digitalin and Digitalein, but less active than Digitoxin (or Nativelle's Digitalin). The only known and observed cases of poisoning were occasioned by eating portions of the first-named shrub, *Thevetia neriifolia*, the so-called *Ahovai-tree* of the Antilles, which has been figured and described by Descourtilz.* It resembles very much the oleander, and the name which it bears in the East Indies, "Yellow Oleander," is very appropriate. The shrub occurs also in Cayenne, and in Peru; also in Mexico, where it is called *Yeotli*. *Solanin* and its derivative, *Solanidin*, are likewise violent poisons; and both Thevetin and Solanin are remarkable through the fact that their derivatives—by splitting up of the glucosides—are equally poisonous as themselves, contrary to the observations made upon Hyoscin and Tropin, the derivatives of Hyoscyamia and Atropia.]—DR. BUCHHEIM: "On Kosin." [Author remarks that Flückiger's statement of the superiority of Bedall's Kosin (Munich) over Merck's is not quite correct, but that both are probably equally good. In general, he disapproves the use of the proximate principles of vermifuge remedies, and strongly advises to administer them in substance, as the object is not to cause their absorption by the organism, but rather their local effect in the intestines.]—F. A. FLÜCKIGER: "Note on so-called Wood-oil" (see p. 201).

**Pharm. Jour. and Trans.**—May. J. C. TRESH: "Capsicine; an Alkaloid said to be contained in Capsicum Fruit; does it exist?" [The author, after alluding to the conflicting and unsatisfactory statements regarding this supposed body, proceeds to give the results of his own investigations. The pericarp of the fruit was exhausted with benzine, and the percolate evaporated, when it left 20 per cent of a very acrid red fat. This was dissolved in ether, treated with dil. sulphuric acid, the acid solution partially neutralized with barium carbonate, filtered and evaporated. A red, highly acrid fat remained, which yielded to ether a light brown oily liquid of a mawkish, not acrid taste, resembling conia. It had alkaloidal properties. The author remarks in a note, that he has just discovered the real active principle, which he will shortly describe.] C. D. PARRY: "Glycerole of Subacetate of Lead" (See p. 208).

June. — A. H. ALLEN: "The Determination of Quinine." [The author in the course of his paper has occasion to criticise the method prescribed in the Ph. Br. for estimating the quinia in the citrate of iron and quinia; namely, to precipitate by a slight excess of ammonia, to collect on a filter and (of course after slight washing) to weigh. Any washing whatever, will always diminish the amount of quinia found, and the extraction by shaking the alkaloid out with ether, is in all cases to be preferred.]—"Santonine Poisoning and its Antidote." [An extract from a report by Prof. Binz on santonin-poisoning states, that the spasms and tetanic convulsions produced by an overdose of the drug, may be easily subdued by inhalations of chloroform or ether; and in addition purgatives and plenty of drink should be given for its speedy elimination.]

* Flore pittoresque et médicale des Antilles. Paris, 1827. III., p. 40, pl. 158.

# THERAPEUTICS.

### The Reduction of Febrile Temperature by the Introduction of Cold Liquids into the Bowel.

THE *London Med. Record*, of June 15, contains a translation of an article in the *Deutsches Medicinische Wochenschrift*, of May 13, by Dr. D. C. Rutenberg, of Vienna, containing the results of experiments on himself, and the trial of the same method on two patients suffering from intermittent fever. By Heger's method of using an irrigator, or even a simple funnel and long tube, it becomes possible to introduce water at various temperatures into the abdomen. The copious blood supply and the warmth of that cavity, seemed to promise a favorable result to attempts at influencing the general temperature in this way. The iliac vessels and their ramifications are at once most directly exposed to the cooling influence of the water injected. And then it was not unreasonable to suppose that the effect would extend not only to the intestinal and peritoneal vessels, but even to the aorta and vena cava inferior. Kemperdick's experiment of cooling the blood in the abdominal cavity of a patient suffering from typhoid fever, by introducing a bladder into the rectum through which, by means of an irrigator, he kept up a current of rather cool water, seemed to be limited in its effects to the pelvic cavity.

That large quantities of water could be introduced into the bowel, was not then generally known. It is not very easy to keep up a constant current in this way, since the return tube or catheter could not so well be introduced so far as the fluid itself, so that it would be difficult to ensure uniformity of temperature in this way; more particularly that in the position of the patient, lying on the right side, desirable for other reasons, we could scarcely expect the warmed water from the iliocœcal valve to find its way out to the anus. It therefore seems better to introduce the water as cold as possible, to allow it to acquire the temperature of the body, and then, after letting it escape, to introduce a fresh quantity. The experiments of Dr. Rutenberg were made on himself in the winter of 1874-5. He says that the injection of iced water into his bowel was not the least unpleasant; indeed, he thought the bowels less disposed to contract spasmodically than when smaller quantities of water were introduced of the customary warmth. One advantage of this method, as compared with the cold bath, is that its action is not interfered with by the corpulency of the patient.

### Hypnotic Properties of the Lactate of Soda.

IN addition to the observations of Preyer, published on page 47 of NEW REMEDIES, we have, in the *London Med. Record*, the account by L. Meyer, of the results of his enquiry into the validity of Preyer's hypothesis, that sleep may be induced by the production of fatigue-products in the body. To this end lactate of soda is administered. It is a clear yellowish-white syrup of sp. gr. 1.325, and of pleasantly acid taste.

The cases experimented upon were various incurable diseases of the sexual and nervous systems, all in females. All had been accustomed to a continuous or occasional administration of morphia. The lactate was first administered subcutaneously, 0.6 grammes two or three times daily. The result was not encouraging. The injection caused pain in the part, and nausea or vomiting, without producing sleep, or even ease. A larger dose by the mouth, 10 to 15 grammes, gave better promise. Some still had nausea or vomiting, but all got some relief from pain. It was afterwards found necessary to vary the administration of the drug, according as it appeared to act upon the nervous or digestive system in particular cases. Sometimes it was combined with small doses of morphia. By means of this discrimination the effects were much more satisfactory. Preyer advises that the salt should not be kept as a syrup, but made when wanted by adding lactic acid to carbonate of soda, (10 to 15 grammes of the latter are first dissolved in warm water, and lactic acid added till neutralization is effected). The solution may then be given as a drink with milk and sugar, or with extract of beef. Meyer concludes that the value of the drug, so far as his observations go, is shown in the diminution of the requisite dose of morphia. If the lactate be given, the quantity of morphia required is much less, and so far it is of value. Latterly, at Virchow's suggestion, lactic acid alone has been given with results quite similar to these when the salt was used.

### Salicin, or Salicylic Acid in Rheumatism.

IN the *British Medical Journ.*, of May 20, Dr. T. Maclagan gives the result of his experience in the use of these two remedies in the treatment of acute rheumatism, and rates their respective merits as follows: "That each exercises a marvellous influence in cutting short an attack of acute rheumatism there can be no doubt. I have used salicin or salicylic acid in every case of acute rheumatism which has come under my care since November, 1874 (a year and a half), and invariably with the same result—a rapid cure of the disease. Seeing a patient suffering from acute rheumatism, I have no hesitation in assuring him that within forty-eight hours, possibly within twenty-four, he will be free from pain. That is a very different tale from any that can be told in connection with any other remedy."

Referring to the first case in which he employed salicylic acid, he says:—"This case well exemplifies what is the chief objection to salicylic acid—its tendency to produce irritation of the throat and stomach. I may have been unfortunate in

my experience, but in every case in which I have given it this irritation has been complained of. All writers on the subject agree in referring to this irritation as one of its unpleasant effects. The salicylate of soda seems to give rise to the same disagreeable symptom. Salicin, on the other hand, never gives rise to any unpleasant effects. I have prescribed it within the last year and a half in many different ailments, in doses ranging from five to thirty grains. I am probably within the mark when I say that I have thus given it to a hundred different people; and I cannot recall a single instance in which any disagreeable effect was produced. I have myself taken (by way of experiment) three doses of sixty grains—one in the forenoon, one in the afternoon, and one at night—without experiencing the least discomfort; but the smallest pinch of salicylic acid produces in me a feeling of heat and irritation in the throat, while a dose of ten grains gives rise to gastric irritation, and a most unpleasant, burning sensation in the fauces.

"Salicin is a pleasant bitter, and is best given with a little water flavored with syrup of orange if desired. In adequate doses—say fifteen grains every two hours—it cuts short an attack of rheumatic fever without producing disagreeable effects. It should be continued in smaller doses during the first fortnight of convalescence.

"As remedial agencies in acute rheumatism, salicin and salicylic acid seem to be equally efficacious; but the former has the advantage of producing no unpleasant effects. In time, too, it is sure to be much cheaper: a matter of some importance with a large class of sufferers from rheumatism."

In a subsequent issue of the same journal (June 3d), the experience of Dr. Maclagan is confirmed by Dr. Hugh B. Brew, of Wicklow, and G. T. Schofield, of Moseley, both of whom have had excellent results from the use of salicin as recommended. The latter has found milk to be a good medium for the administration of salicin.

The statements of Dr. Maclagan, in reference to the use of this remedy, published in *The Lancet*, induced Senator also to publish the results he had derived from the employment of salicin in parametritis, pneumonia, typhoid fever, and phthisis. In doses of from two to five or six grains it diminished the temperature in fibrile affections, just as certainly as salicylic acid. Owing to the difficulty he had in obtaining the drug, he had not as yet used it in the treatment of rheumatism; but he believed, from Dr. Maclagan's experience, that it would prove equally efficacious. Its price is said by Senator to be cheaper in Germany than that of salicylic acid, which he mentions as one reason favorable for its use. In this country, however, the price is at present higher, as will be seen by our price current. Whether an increased demand and manufacture would lower the price, as Senator thinks, we can not say.

In the *Br. Med. Jour.* of June 17th, George Parker May, M.D., of Maldon, reports a case of Endocarditis in a man aged 45, who had five years before suffered from rheumatism, and in the interval had been troubled with rheumatic pains. Salicin, in scruple doses, was given every few hours in a mixture of glycerine and water; and on the following day the patient was feeling better, having been relieved by the first dose of the medicine. The anxiety of the countenance was less apparent. With his head and shoulders elevated, he had heen able to sleep a little. The endocardial murmur was less pronounced; pulse 106 (124 previously), temperature 100° F. The perspiration was less; the cough was still troublesome; the bowels were regular. The salicin was continued, and on the following day he could lie down better and had slept. There was less dyspnœa, the pulse was 90, regular and compressible; no palpitation; temperature 99°. There was a blowing murmur with the first sound, distinct over the apex, but not so harsh; it was gradually lost towards the base. Salicin was given every six hours. On the 19th, he was in every respect better; and on the 24th, he was able to walk a few steps out of doors.

### Nitrate of Lead as a Local Agent in Erysipelas.

JOHN FIRNAT, M.D., reports cases, and says: "After having tried tincture of iodine, camphorated ether, nitrate of silver, carbolic acid with oil of turpentine, acetate of lead ointment, oxide of zinc ointment, and styptic collodion, in erysipelas, in connection with internal treatment, I have found nitrate of lead with glycerine to give far more satisfaction. . . . I have also used the nitrate of lead, 10 to 15 grains to ℥j of glycerine, in eczema of the head, washing previously with tar soap, and then applying it with entire success, in connection with small doses of Fowler's solution and iodide of potassium.—*Medical Times.*

### Chlorate of Potassium in Chronic Gastro-Intestinal Catarrh.

S. C. DUMM, M.D., used chlorate of potassium in a case of chronic gastro-intestinal catarrh, attended with inflammation of the bile duct, with excellent results. Ten grains were given every three hours, dissolved in water. After the use of the remedy for one day, pain in the stomach ceased, the appetite improved, vomiting stopped, and the patient recovered her health quickly.

### Hypodermic Injection of Cold Water for the Relief of Pain.

DR. S. HENRY DESSAU, of this city, reports in the *New York Med. Jour.*, of June, seven cases in which he followed the suggestion of Dr. Lélut, (*L' Union Médicale*), in the use of cold water, introduced hypodermically, for the relief of pain of a rheumatic character. In all the cases the operation worked well.*

* Compare also the January number of this journal, page 20.

### Fatal Poisoning by Alcohol.

I. J. RADCLIFFE, M.D., described in the *Medical Times*, of June 24, the case of a child, aged four years and five months, who was fatally poisoned by drinking about seven ounces of whiskey, of inferior quality. The whiskey was taken in the morning, fasting; was rapidly absorbed, and in fifteen minutes the child was utterly insensible. In spite of all efforts, he died in about twelve hours, the immediate cause of death appearing to be congestion of the brain and lungs. The pupils were widely dilated, respiration was irregular, the pulse was quick and irregular, and about three hours before death took place, convulsive movements occurred.

### Incompatibility of Iodide and Chlorate of Potassium.

CHLORATE of potassium and iodide of potassium are both entirely harmless in suitable doses. Furthermore, these two salts do not re-act upon each other in solution, even at a boiling heat. Yet it has been proved, that, when they are administered together, they do combine in the stomach, producing iodate of potassium, which is poisonous. M. Melsens found that dogs could take the chlorate or iodide, in doses of five to seven grains, with impunity, but that a mixture of the two killed them in a few days, with the symptoms of poisoning by iodate of potassium. This combination must, therefore, be avoided. Indeed, as a general rule, the chlorate is so unstable, and so ready to give up its oxygen, that it cannot safely be combined with any substance capable of oxidation.—M. S. BIDWELL, in *Am. Journ. Pharm.*

### Sulphate of Cinchonidia.

E. H. PURDUM, M.D., of Hermon, Ill., says that since the early part of 1875, he has used the sulphate of cinchonidia quite extensively, especially in intermittent and remittent fevers, with results quite equal to those following the use of sulphate of quinia, and with the further advantage that his patients suffer less from the symptoms of cinchonism. The doses used have corresponded to those of the quinia sulphate, when used under similar circumstances. The irritation of the stomach does not exceed that following the use of any of the other alkaloids. His experience with its use in the multitude of minor affections, such as slight neuralgias, rheumatic troubles, etc., is very favorable.—*Chicago Med. Jour. and Examiner.*

NOTE.—The use of this alkaloid will doubtless shortly become quite universal. In the first place, although the supply of yellow or other quinia-barks is not by any means exhausted, yet, within a not very long number of years, the *natural* supply from the South American forests will fail, and we will be compelled to rely upon the bark obtained from *cultivated* cinchonas. The latter, however, do not represent all the best natural varieties, and, although barks are produced in India and Java, yielding a tolerably high percentage in quinia, those species which yield the so-called red barks, and some others, are much richer in cinchonidia than in quinia; so that, in the future, the disproportion in price between these two alkaloids will be greater even than now. Unless science should in the meantime bestow upon us artificial and therapeutically useful quinia, we may safely predict that cinchonidia will become the more popular, because cheaper, cinchona alkaloid—*provided always that it accomplishes the work which is claimed for it.* In order to test this matter systematically, the Medical Board of Bellevue Hospital, New York city, have decided to substitute for a definite time sulphate of cinchonidia for sulphate of quinia, and to have its action thoroughly studied. We shall not fail to communicate the results at the proper time.—ED. N. R.

### Fatal Result of Injection of Chloral.

FOR the purpose of performing an operation upon both eyes of a male patient, Deneffe and Van Wetter injected 6 grm. (92½ grs.) of chloral into the blood within ten minutes. After anæsthesia had been obtained, the right eye was operated upon, which was accomplished in one minute. Just as they were proceeding to operate upon the other eye, pulse and respiration suddenly ceased; but on immediately applying a current of electricity, they reappeared, and the face assumed a natural redness. But suddenly the apparatus ceases to work, another is not at hand, pulse and respiration cease again, and the patient is dead. This case shows that the utmost caution and reliable appliances for restoring animation should never be wanting.—*Pharm. Centralb.* fr. *Arch. d. Pharm.*

### Sea Water in the Treatment of Obesity.

THE *Paris Médicale* discusses the treatment of obesity by the administration of sea-water combined with a residence at the seaside. Sea-water taken internally, acts like diuretic and purgative salts, a remarkable fact being that the diuretic effect increases when the purgative diminishes. The water should be obtained, when possible, from some depth, and far from shore. It is then to be left to settle for six or twelve hours, and filtered. It is to be taken three times a day, in doses of a small glassful, or in half that quantity at a time, with fresh water or milk. It is stated as a fact that sea-water thus used facilitates the oxygenation of the blood, and that it hastens the elimination of effete materials. In combination with this treatment, sea-water baths are to be taken, free exercise is to be practised, and fattening foods avoided.

### The Action of Coca.

SINCE the writing of Sir R. Christison on his experience in the use of coca leaves as a means of preventing fatigue, several have experimented upon themselves. Among the latest who have published the results are two Irishmen:—Walter Bernard and J. R. Leebody of Londonderry. Starting one night at midnight, after a day of un-

usual fatigue, they walked twenty-four miles, part of the way over a stony road, and ascended a steep hill over thirteen hundred feet high. Both men, in the course of the walk, chewed each two doses of forty grains of the leaves; and were decided in their opinions that they suffered less from fatigue or the effects of the severe exercise than they would have done had the chewing of the coca not been resorted to.—*Brit. Med. Jour.*, June 17.

### Treatment of Syphilitic Buboes by the Parenchymatous Injection of Iodide of Potassium.

A DR. JACUBOWITZ, who writes to *Der Praktische Arzt*, in the treatment of syphilitic buboes injects a solution of iodide of potassium, in the proportion of one part to thirty of water; and he gives two cases in which his results were extraordinarily successful. In one case he made a puncture into the most prominent part of a gland which was enlarged to the size of a goose's egg, pushing in the needle obliquely to a considerable distance. After injecting about the fourth of the syringeful a resistance was felt; he then withdrew the needle for a short distance, penetrated a septum on one side, and again injected a quarter part. By repeating this process, he threw in about fifteen grains of the iodide in an ounce of water. The tumor almost immediately became harder, smaller, and less painful. After four injections, performed in the course of two days, the tumor gradually dwindled away to the size of a hazel-nut, and ultimately vanished altogether. The recent case was very similar. Here, however, two dark blue bodies remained, which were so hard that injection of them appeared to be impossible. It was, however, accomplished with entire success; ten injections being required altogether. The small quantity of the iodide required is quite notable.—*The Practitioner*.

### Spider-Web, or Tela Araneæ in Chronic Intermittents.

IN the *Cincinnati Lancet and Observer*, Dr. L.M. Jones reports that having failed, in the case of a girl aged ten years, in treating a case of chronic intermittent with quinine, camphor, chinoidine pills, arsenic, eucalyptus, iodine, phosphoric acid, etc., he adopted the suggestion of Dr. Jackson in the U. S. Dispensatory, to use spider-web.

A bunch of spider-web collected from a dark cellar (as it is the web of a species of spider which inhabits dark places that possesses medicinal properties), about the size of a large hulled walnut, was put into four ounces of whiskey and allowed to macerate forty-eight hours, when it was filtered. The patient took a teaspoonful four hours before the expected chill, and at hourly intervals until she had taken four doses, and then took a like quantity before each meal and at bed-time until all was taken. Although the anticipated chill came it was very light, and was the last one experienced up to the time of the report, a period of four months. Neither the patient nor her friends knew the nature of the remedy used, so imagination had no effect in the cure. The remedy has succeeded equally well in subsequent cases.

### Juniper Fumigations in the Treatment of Skin Diseases.

DR. CÆSAR BECK describes the following mode of treatment: The surface of the body is subjected to the action of the fumes of moist juniper leaves in cases of prurigo, urticaria, and pruritus cutaneus, with great mitigation of the itching. For example, a woman fifty years of age had been tormented with urticaria from March until September, and was obliged to scratch herself for about an hour every evening before going to sleep The usual remedies had been fruitless. After two fumigations she was better, after ten (one daily) she left off scratching and no more fumigations were required.

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MICRO-PHOTOGRAPHS IN HISTOLOGY, Normal and Pathological. By CARL SEILER, M.D. In conjunction with J. GIBBONS HUNT, M.D., and JOSEPH G. RICHARDSON, M.D. Philadelphia: J. H. COATES & CO., 822 Chestnut street.

WE are in receipt of two fasciculi of this handsome publication, which is to be issued monthly, at the rate of 60 cents per number, or $6.00 per annum. Dr. Seiler is chiefly responsible for the photographic plates, of which each number contains four examples, and the text which accompanies them is the work of his collaborators. Both Dr. Hunt and Dr. Richardson are too well known as authorities to require any endorsement of their works from us, and we will simply quote the prospectus in saying that they have, in the inception of the work, had the advice of Drs. Joseph Leidy, S. Wier Mitchell, and others. The eight plates before us are as follows: I. Section of Skin (× 80). II. Epithelioma of Lower Lip (× 80). III. Pavement Epithelium, from a Triton (× 80). IV. Endothelium, from diaphragm of a Guinea Pig (× 80). V. Elastic Connective Tisssue (× 120). VI. Scirrhus of Mammary Gland (× 180). VII. Non-elastic Connective Tissue from Omentum of a Cat (× 80). VIII. Connective Tissue Corpuscles, from Cornea of a Frog × 120).

The prospectus says that "This publication is intended to replace the microscope as far as possible, for those physicians who have neither opportunity nor leisure to make observations with the instrument for themselves, and also to furnish microscopists, for comparison, correct representations of typical specimens in the domain of normal and pathological histology." To us the latter purpose seems to be by far the most important, and we recommend to the student the use of this series of plates as a guide to the appearances which he should expect to find in the tissues which he will study. The text is of such a nature as to give him material aid in this direction.

LECTURES ON FEVER: Delivered in the Theatre of the Meath Hospital and County of Dublin Infirmary. By WILLIAM STOKES, M.D., D.C.L., OXON., F.R.S., etc. Edited by JOHN WILLIAM MOORE, M.D., etc. Philadelphia: Henry C. Lea. 1876. 8vo, pp. 264.

DURING several months portions of this work have been issued in connection with one of Mr. Lea's journals, and the lectures have thus become partially known to many of

the medical profession. While they embody the experience and principles of one of the best men that the Dublin school has produced—and they are by no means few—the work is hardly so much an exponent of the views which are held by the large proportion of practitioners of the present day as they are of the theories and practice taught a few years ago. Since the revival of Cullen's method of using cold water, and the studies of numerous observers of the effects of apyretic remedies upon the duration and intensity of febrile processes, together with the employment of the thermometer as an essential guide to the character and course of the diseases mentioned, the natural history of "fever" has undergone important changes; and however interesting and valuable Professor Stokes's writings are, they can hardly be claimed to cover the extent of our knowledge on the subject.

CYCLOPÆDIA OF THE PRACTICE OF MEDICINE. Edited by DR. H. VON ZIEMSSEN, Professor of Clinical Medicine, Munich, Bavaria. ALBERT H. BUCK, M.D., of New York, Editor of the American Edition. New York: WM. WOOD & CO. 1876.

Vol. IV. Diseases of the Respiratory Organs.

Vol. XI. Diseases of the Peripheral Cerebro-Spinal Nerves

WITH the exception of the sections on Whooping Cough and on Œdema, New Growths, Ulcers, Neuroses, etc., of the larynx, Volume IV. completes the portion of the work devoted to Diseases of the Respiratory Organs. This is the largest volume of the series, so far as it is yet published, containing 805 pages, and includes the following articles:

General Diagnosis of Diseases of Nose, Pharynx and Larynx; General Therapeutics and Diseases of the Nose, by Bernard Fraenkel, of Berlin. Anæmia, Hyperæmia, Hemorrhage, Abnormal Color, and the Catarrhal Inflammations of the Laryngeal Mucous Membrane, by Prof. von Ziemssen. Croup, by Prof. Johan Steiner of Prag. Diseases of the Trachea and Bronchi, by Dr. Franz Riegel, of Cologne, and Diseases of the Pleura, by Dr. Oscar Fraentzel, of Berlin.

The translators of this volume are Drs. Burney Yeo, of London; J. Solis Cohen, of Philadelphia; A. Brayton Ball and Geo. M. Lefferts, of this city, and Edw. W. Schauffler, of Kansas City.

Vol. XI. is the work of one writer, viz., Prof. Wilhelm Heinrich Erb, of Heidelberg, Baden; and Mr. Henry Power, of London, is the sole translator. This volume comprises 623 pages.

The opening chapters of Vol. IV. are well illustrated, but the engravings of apparatus represent such as are in use in Germany, and are hardly equal, we think to those employed by our own countrymen in the treatment of throat and nasal affections. The remarks of Dr. Fraenkel concerning the innocuous nature of the nasal douche, or the harmlessness of the entrance of fluids into the middle ear through the Eustachian tube, will hardly meet the endorsement of many of our practitioners, and hardly, we think, of the American editor, whose experience of such ill effects should have warranted him in adding a qualifying caution.

Vol. XI. treats of functional diseases (neuroses) of sensory and motor nerves, and nerves of special sense, and anatomical diseases of the peripheral nerves.

SEVENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS. January, 1876. 8vo, pp. 551.

EACH year the publications of this board present us with well digested and elaborated essays and reports on subjects that are of more importance to the welfare of communities than scores of the clap-trap political and other topics that absorb the attention of journalists and politicians. That they are almost invariably left to be worked out and made practical by the self-sacrificing labors of scientific men, who not only often fail to receive the support of legislative bodies, but have the funds necessary for the prosecution of their labors doled out to them as if they and their projects were unwelcome pensioners upon the tax-payers, is well appreciated.

Such, however, would hardly seem to be the case in the Commonwealth of Massachusetts, for each year brings us a more voluminous report and a more liberal expenditure for travelling expenses, special services, maps, and illustrations. That the commissioners are frugal and circumspect in the use of their funds would seem to be proved by the items of $4.00 each for "Telegrams" and "Miscellaneous" expenses, while $16.69 is deducted from the expenses of the board as having been realized from the sale of some old shelves. It is evident that this is not a political board. As a general review is hardly possible here, we will give a synopsis of the contents only: Special Reports on, I. The Pollution of Rivers. II. The Water Supply, Drainage, and Sewerage of the State from the Sanitary Point of View. III. The Disposal of Sewage. IV. Summary and Recommendations. Then follow Sanitary Hints; Defects in House-Drainage and their Remedies; Report of an Outbreak of Intestinal Disorder attributable to Contamination of Drinking Water by Means of Impure Ice; Report on Registration of Prevalent Diseases; The Health of Boston, 1875; The Surface Drainage of the Metropolitan District; The Health of Lowell, 1875; Health of Towns.

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# ORIGINAL COMMUNICATIONS.

## REMARKS ON THE UNITED STATES PHARMACOPŒIA.

BY E. R. SQUIBB, M.D.

DURING the recent meeting of the Medical Society of the State of New York, Dr. E. R. Squibb, of Brooklyn, presented his report as a delegate to the American Medical Association, which met in Philadelphia on the 6th ult., which report embraced the following preambles, resolutions, and remarks, relative to the method of revising the Pharmacopœia:

*Whereas*, The usual time for a decennial revision of the U. S. Pharmacopœia is drawing near; and

*Whereas*, The plan of revision and publication in force since 1820 may not now be the best that could be desired; Therefore, be it

*Resolved*, That the American Medical Association take the whole subject of the National Pharmacopœia into consideration for a review of its management; and for the present time with especial reference to the following questions:—

*First*, Whether the present plan of revision and publication be practically sufficient for the wants of the Materia Medica and Pharmacy of the present time. And if not sufficient, whether any plan could be devised which might offer probable advantages enough to justify an attempt to disturb the present one.

*Second*, Whether this Association be the proper custodian in this country of the interests involved in the National Pharmacopœia; and if it be the proper source of a national codex, whom can it invite to co-operate with it in the work.

*Third*, If it be a work for this Association, in what way can its details be wisely undertaken with any prospect of material improvement upon the present plan.

*Resolved*, That in order to facilitate mature and general deliberation upon so important a subject, the final discussion of these resolutions be laid over for at least one year; and that the subject be recommended to the President of the Association for consideration in his annual address for 1877.

After the reading of the Resolutions, Dr. Squibb said that if they were accepted by the Association, he would offer some reasons for their adoption.

On motion, the Preamble and Resolutions were accepted and placed before the Association, and Dr. Squibb was called to the speakers' stand.

He said it could hardly be necessary to say a word upon the great importance of the Pharmacopœia to the medical profession of the country as represented here; or to apologize for bringing the subject up at this time, and he would therefore go on at once to the consideration of the preamble and resolutions.

He reminded the Association that the plan upon which the U. S. Pharmacopœia had been revised and published up to this time was adopted in 1820, but had been much modified and improved from time to time. As now in force, it will be found stated on the first pages of the Pharmacopœia, and it is briefly as follows: In the month of May of the last year of each decade the President of the previous Convention issues a notice "requesting the several incorporated State Medical Societies, the incorporated Medical Colleges, the incorporated Colleges of Physicians and Surgeons, and the incorporated Colleges of Pharmacy throughout the United States, to elect a number of delegates not exceeding three, to attend a General Convention to be held in Washington" in May of the following year, or the first year of the new decade; and the next Convention, as provided for by the last one, occurs on "the first Wednesday in May, 1880." This is now drawing so near that if any action be taken in regard to it, it will be necessary and wise to consider it within the next year, and adopt it within two years. It will be noticed that this decennial convention for this express purpose, long antedates this Association, and it is probable that if this Association had been in existence in 1820, or any similar National Association, it would have had the charge of the Pharmacopœia. As it stands now this Association is very nearly a duplicate of the Pharmacopœial Convention, so nearly so that one or the other seems unnecessary. Both are representative bodies, and both claim to represent the medical profession of the country, and aim to do so, and the two are the only bodies which either aim or claim to represent the whole profession. The only material difference in the organic structure of the two is that within the past thirty years the decennial Convention has wisely availed itself of the profession of Pharmacy as a specialty of medicine, and has invited delegates from the incorporated Colleges of Pharmacy. The Pharmacopœial Convention has, however, always ignored the National Pharmaceutical Association as it has this Association, going for its constituent delegates to the same sources as the National Associations, as it did long before the National Associations existed.

The Pharmacopœial Convention meets every ten years; and, having decided upon all the general principles of the Pharmacopœia, and ordered its general scope, and plan, and methods, it appoints a Committee of Final Revision and Publication to carry out these general principles and plan in the details of the revision, and gives this committee entire charge of the Pharmacopœia until the next decennial period. This committee meets as soon as practicable after the convention and commences the detail work of the Revision. Few except those who have served upon this committee know the amount and character of the labor it involves, and two to three years has been generally occupied in the Revision, the time and labor increasing with the progress of the medical sciences, so that at the last Revision the Pharmacopœia was not issued until 1873, or until nearly one-third of the next decennial period had passed. This work of Revision has always been done gratuitously; and to such men as Drs. Wood, Bache, Carson, and Bridges, and Messrs. Proctor and Taylor, who have worked upon it time after time, and some of them from the very first to the last Revision, the profession of this country owe a debt which can never be discharged and should never be forgotten. Some of these gentlemen are now too infirm to have any more of such labor imposed upon them, and two others of the very hardest workers, Bache and Proctor, are dead. And so, now, where the charge of these important interests is to fall, and how they are to be managed, are the questions sought to be presented to you.

Next. Is the present plan, adopted so long ago as 1820, the best that could now be desired? Here it must be remembered that any plan which has worked well for more than fifty years is entitled to so much respect, that it becomes a matter of grave doubt as to whether it can be wisely disturbed. But it must also be remembered that the working well of this, as of all plans, has depended less on the plan than on the men who originated it and carried it out, and that these men with their energetic labor are no longer available for the work. And above all it must be remembered that an imperfect or even a bad plan, once established and moderately well carried out, is often better than a change, with its necessary uncertainties. Hence it must always be wise to pause and scrutinize closely the reasons for so great and radical a change as that here proposed. A revision of the Pharmacopœia every ten years may have been quite often enough in 1820, '30, and '40, and even in 1850, but outside of its present organization, it has since that time been generally believed that in order to keep pace with the more rapid progress of general medical science the revisions should be more frequent; and there is much good authority for supposing that a fasciculus might with advantage be issued annually or biennially, thus keeping the work up to the level of current literature and knowledge. The long periods of ten years doubtless allow the sensational novelties of the materia medica to have their day, and die out without disturbing the national standard with their unsound claims and unsettled superficial testimony. But intermixed and confused with these sensational novelties comes all the real sound progress that is made,

and it might be a most valuable function of the Pharmacopœia, by current fasciculi, to aid the general profession in discriminating between the more or less substantial claims to favor. Beside, in the long periods of ten years many valuable articles are lost with the worthless mass of trash, not so much by the prejudice excited by the company in which they are found, as from a failure to recognize them and classify them by proper names and description, so that they may be identified and individualized for more accurate observation and research.

Again, an interval of ten years embraces so much more of detail work for a Committee of Revision, than it did twenty or thirty years ago, that the labor seems to be now approaching to an impracticable amount. The committee can only meet weekly, because the detail work has to be done by some individual as a sub-committee between the meetings, and often has to be done over and over again. Thus as the amount of work accumulates by the more rapid progress of medical sciences, the time necessary to do it must still increase though at the last revision it reached nearly three years. A more frequent review of the ground would so divide this labor and time as to give to the Professions of Medicine and Pharmacy the results more frequently, and with much less delay. And then, reaching the professions more frequently and in smaller quantity, such results would be more generally examined and appreciated. Beside, the actual aggregate labor of attaining such results would be diminished, by the investigation and disposal of many subjects before they became befogged and confused by mercantile interests and the doubtful testimony which grows thereon.

Again, it should perhaps in justice be stated that the present plan has not been so successful in the later Revisions, and notably defective in the last one, when the Committee of Final Revision and Publication refused to carry out the instructions of the Convention, and substituted its own judgment in opposition to that of the authority by which the committee was created.[1]

Therefore, if the present plan be not well adapted to the wants of the present day; and if the men who originated it, and who so laboriously carried it out, be no longer accessible for so active a work, may it not be a proper time to change the plan when the workers must be changed.

Then, if changed, how and how far shall it be changed? And, is the American Medical Association the proper custodian of the interests involved? A Pharmacopœia is an authorized dictionary of the standard materia medica, for the use of the physician in the prevention and cure of disease, and owes its existence to the advantages and the necessities to his profession of accurate definition, uniformity, and stability in the agents used in the practice of his art. It is the result of accumulated experience and scientific research as directed to remedial agents, and especially aims to establish a standard for quality, strength, and uniformity in the materia medica. In accomplishing this it also becomes, of necessity, an authorized formulary for compounding the substances of the materia medica, or converting them into such preparations as come into general use under specific names. If there were no science nor art of medicine there would be no Pharmacopœias, and therefore a Pharmacopœia belongs to the science and art of medicine for the sole advantage of physicians in the treatment of diseases and injuries. And, a "Pharmacopœia of the United States" is one which is peculiarly adapted to the professional status and the professional wants of the physicians of the United States. It thus becomes a National Pharmacopœia, and belongs to the physicians of the nation as they may choose to organize themselves to construct and manage it, as well as to use it. Since 1820 a comparatively small proportion of the medical profession of the nation has maintained an organization solely for the management and control of the National Pharmacopœia. The fact that in this organization the medical profession of eight to twelve States only was represented was not the fault of the organization, for each decennial Convention not only invited delegates from all the States, but urged upon State Societies, Colleges, etc., the importance of being represented in, and aiding in a work of such importance. Neither, perhaps, was it the fault of the general profession that a no larger proportion of it was represented in these Conventions. But rather, perhaps, because the Conventions were too infrequent to keep the object freshly before the aggregate profession; because they had but one specific object and purpose, and that not a very popular one, nor one in which many individuals kept themselves very thoroughly informed—and, perhaps, more than all, because the aggregate profession had full confidence in the few men who managed the interest so well, and trusted them fully, basing this trust justly upon the beneficent results of their labors.

But, whatever may have been the reasons, this organization never was a national one in any true sense of the word in its relation to the aggregate medical profession of the United States, and its Conventions were not only infrequent but small, and simply gave support and authority to a very few men. And this organization has not increased and expanded in proportion with the magnitude and importance of its work.

Meanwhile the growing need of a truly national organization of the medical profession, for the care and management of its general interests, culminated in 1847 in the establishment of this, The American Medical Association, and it started off at once with a representation from about twenty-three States. From 1848 to the present time this Association has consisted of representatives from so nearly all the States that it must be fairly considered a National organization, in harmony with the National form of Government. And if it does represent the aggregate medical profession, it is fairly entitled to the management and control of all the general interests of that profession, and the only proper source of authoritative action. Among the most important of these general interests of the profession—if not the most important—is that of the Pharmacopœia; and this interest has, up to this time, been left entirely under the control of the older and smaller national organization.

The question is, Shall it be still left where it is, or, would it be better for the Pharmacopœia that this Association, now the only organization which in any proper sense represents the whole profession of the nation, should now assume the management and control of this important interest? This is a very grave question, and one that cannot be settled without mature deliberation. Even if it be admitted that this Association is entitled by its more truly national character to the custody of this among its other interests, it may be still questionable whether, for the greatest good to the Association, the Pharmacopœia had not better be left where it is, because it must be fairly understood that many risks are to be assumed either way. It will, however, hardly be doubted that this Association, as the only national representative of the profession, has the right to decide these questions, and is, therefore, by that right, the proper custodian of the interests involved. It would be quite competent for this Association, at its meeting for 1879, to direct one of its constituent members from each State Medical Society to attend this "Convention for Revising the Pharmacopœia" in 1880, and thus give to the organization that nationality of character which it now needs.

The next question is, if this Association be the proper custodian of the Pharmacopœia, and if it be wise for it to assume its right of management and control, whom can it invite to coöperate with it in the work? This question must be answered, that it cannot wisely nor safely avoid inviting the active coöperation of the "American Pharmaceutical Association," a national organization as general in its representative character, and nearly as old, as the "American Medical Association," and whose objects tend to the same general results, and belong to the same general interest. Indeed, Pharmacy is the outcome and the expression of a Pharmacopœia, and a Pharmacopœia without Pharmacy would be a theory without practice; and Pharmacy without a Pharmacopœia would be but a desultory, roving occupation, and not a true art of medicine. Pharmacy was the first specialty that grew out of the general science and art of medicine, or rather, the first differentiation in the art of

[1] See Report on the Pharmacopœia to the Medical Society of the State of New York, by E. R. Squibb, M. D., published in the Transactions of the Society for 1873-4, p. 82.

medicine; for when Pharmacy began to grow out of medicine there was but little science behind the healing art. Pharmacy was the first specialty of medicine, surgery the second, and the art of the obstetrician perhaps the third. Then came ophthalmology and the other new numerous specialties. All are mechanical arts, and not sciences, and all derive their inspiration, their development, and their rate of progress from the general science or sciences of medicine, and all are on an equal footing, and equally subordinate to the general medical sciences and the general medical interest, and are but elements in the general art of medicine. The general art of medicine could no more do without the special art of Pharmacy than it could without the special art of surgery. But, had there been no general art of medicine, the special arts of Pharmacy, surgery, etc., would never have existed. Hence the general science and art of medicine, as represented in this and all other national associations, is superior, and the special arts are subordinate, and as streams, the special arts can never be independent of, nor can they ever rise higher than, their source. Medicine and Pharmacy, without their natural connection and dependence upon each other, would soon lose their utility to mankind, and Pharmacy, first of the two, would die out, or degenerate into something else. And an imaginary antagonism between them, which has been too much cultivated of late on both parts, is exercising a degenerating effect on both.

Such reflections, carried to their legitimate and logical conclusions, are so confirmed by the best experience of the time as to convince almost any one, sufficiently conversant with the subject, that it would be almost as impracticable to manage the interests involved in the Pharmacopœia without the coöperation of Pharmacy as for Pharmacy to manage them without Medicine, simply because Pharmacy has accumulated an amount of knowledge and experience which Medicine has long ceased to work for and accumulate, and which Medicine cannot afford to do without or to disregard.

Pharmacy is represented in the National Pharmaceutical Association just as Medicine is represented in this Association; and Pharmacy is essential to the Pharmacopœia; therefore, the coöperation of the American Pharmaceutical Association is the legitimate, the proper, and the best way in which to seek the aid of Pharmacy in the management and control of the Pharmacopœia. And it is altogether probable that if this Association should, in a proper way, invite the coöperation of the American Pharmaceutical Association in this work, under the fully recognized leadership of the Medical Association, the invitation would be accepted.

The final question for consideration is, if this Association should attempt this work, in what way can its details be wisely undertaken with any prospect of material improvement upon the present plan.

This is perhaps the most serious question of all, and one that demands great care when it is remembered how much easier it is to see the defects in an existing plan than to forsee them in one that is untried. The suggestions in regard to a plan now to be offered are not crude, but have received very careful thought. But they are not entirely satisfactory on many points, and are thrown out merely as suggestions which, when received by other minds, may afford indications of what is needed. A provisional plan should be matured and adopted at the meeting of this Association in 1877, and a committee of men familiar with the subject should be appointed to take the provisional plan into consideration, to consult with a similar committee from The American Pharmaceutical Association, and report a complete plan at the meeting of 1878. The committee from The American Pharmaceutical Association to be applied for in 1877, as that Association meets later in the year than this.

The suggestions for a plan are, first, that the whole management and control of the Pharmacopœia be entrusted to a sub-organization of this Association, of the nature of a Board of Management, or of an Executive Committee, to be called The Pharmacopœial Council of The American Medical Association. That this Council should consist of either five or eight members; probably five would be the best number, as large bodies do not work so much nor so well as small ones, and spend more time in reaching harmonious action. If the Council should consist of five members, this Association to appoint the President of the Council, and to invite the Surgeon-General of the Army and the Surgeon-General of the Navy each to appoint one member, and the President of The American Pharmacutical Association to appoint two members. Should eight be considered a better number for this council, or any number greater than five and less than eight, say six for example, then this Association to appoint them. It should be aimed to establish a wise and fair balance of interests in such a council, and the Army and Navy appointments to it would not only be for the purpose of completing its nationality, by giving the General Government its appropriate voice in the matter, but would be for the purpose of bringing into it well educated men free from all bias. As the meetings of this council would have to be frequent during the general revisions, and perhaps two or three times a year for the supplementary fasciculi, and as the members would have to educate themselves to the special work, it would perhaps be better that the council should be small and compact, and live in adjacent cities.

This council, charged with the entire work, should be authorized to employ one or two editors, or secretaries; perhaps two during the general revisions and one permanently. These should be experts competent to do all the detail work under the direction of the council, and should submit the prepared work at the meetings of the council. These officers of the council should be liberally paid for their services, but should have no vote in the council, and perhaps one of them should be permanently employed entirely and solely in the interest of the Pharmacopœia, under the absolute direction and control of the council. There should be no salaries paid to the council, but actual travelling expenses should be paid. And all expert labor necessary to the work should be liberally paid, and the best experts only should be employed. The copyright of the Pharmacopœia is a valuable one, and should an annual supplement be issued it would be still more valuable, so that it is highly probable that the income from this source would be abundant to pay all expenses. And in order to cheapen the book as far as possible to the Medical and Pharmaceutical public the copyright should be placed at a price that would just meet all reasonable expenses. What the copyright has yielded hitherto, or what it was worth, could never be known, because it was always given arbitrarily to one publishing house, which house declined to give any information upon this point. Should the copyright be offered to a properly controlled competition it doubtless could be made to pay liberally all the necessary expenses to having the work well done, and well kept up to the progress of the current Materia Medica.

Should such a council be able to meet and organize in the latter part of 1878, a revision might be published in 1880, thus shortening this interval by two or three years, and making a gain that seems very desirable.

The final Resolution aims at having this subject fully and widely discussed both by the Medical and Pharmaceutical public, and it is hoped that the Medical and Pharmaceutical journals will spread the matter thoroughly and discuss it temperately, and that the Medical and Pharmaceutical organizations throughout the land will give it their most serious consideration—a consideration commensurate with its grave importance; for there is probably no subject where hasty, immature action is more to be deprecated, or where a wise deliberation is more necessary to the welfare of the single inseparable interest which embraces the arts of Medicine and Pharmacy.

The President of this Association for 1877 is pretty well known to have taken much interest in the Materia Medica during many years past, and it therefore seems appropriate to ask him to make this movement a subject of thought and investigation, and to give the Association the results of his deliberation upon it in his annual address.

On motion, the Preamble and Resolutions were adopted, and were made the order of business for 10 o'clock on the second day of the next annual meeting of the Association,

and Dr. Squibb was directed to embody the substance of his remarks for publication.

## REMARKS ON THE PHARMACOPŒIA OF THE UNITED STATES.

BY DR. JOHN C. PETERS, OF NEW YORK,
Vice-President of the New York Public Health Association, etc., etc.

SHORTLY after the appearance of the fifth decennial revision of the United States Pharmacopœia in 1873, I was requested by the President of the Medical Society of the County of New York to read before that society an historical sketch of the origin of that once national work, and to review the last edition of it.

I was then so much interested in the historical part of my subject, that I did not criticise the fifth edition as much as I sometimes felt inclined to; and avoided that somewhat irksome task the more readily, as we all had to be content, after a fashion, with the work as it was, for at least ten years. In short, I did not wish to battle with mischief that was already completed, and which would remain irremediable for a long time. But it was then determined that a new edition should not appear without being preceded by a full expression of the opinions of a large portion of the medical profession, with which I agree.

As a Pharmacopœia is more useful to apothecaries than to physicians, very few of the latter ever purchase or even see it. Yet it is claimed by the strict constructionists that no regular American physician should prescribe any medicine, or direct the use of any formula, which is not contained in the U. S. Pharmacopœia; unless absolutely obliged to, by the onward march of Therapeutics or by the gross deficiencies of the so-called National Standard work. Judged from this standpoint the U. S. Pharmacopœia falls far short of the expectations based upon it.

The U. S. Pharmacopœia is always explained and illustrated by the frequently recurring editions of the so-called and self-styled United States Dispensatory of Wood & Bache, and upon this private but excellent exterprise the majority of American physicians and apothecaries necessarily must rely. But the Dispensatory is almost encyclopediac in its proportions, and contains many things which have not the slightest reference to the U. S. Pharmacopœia, still physicians and apothecaries are obliged to depend upon Wood & Bache's Dispensatory far more than upon the United States Pharmacopœia.

The basis-idea of a National Pharmacopœia is now vastly greater in its proportions than that which was sufficient for the establishment of the first edition, published in 1820. The foreign population of this country is now larger and more varied than perhaps any other country in the world. All the wants of the English populations of the New England States, and Southern States, the Dutch of New York, and the French of Louisiana were more or less represented in the U. S. Pharmacopœia of 1820; while the indigenous medical agents of this country received an amount of attention which the Thomsonians and the Eclectics—(so self-styled, because they reject almost all mineral remedies, and almost all other time-honored medicines, for which they think they have discovered harsh and uncertain substitutes)—have yet scarcely rivalled.

Since 1820, the Irish and German populations of this country have increased enormously; while our commercial and social relations with Spain, Cuba, Mexico, and other Spanish-speaking people, have also forced a strong Spanish element into our country. Almost every well-educated person speaks French and Italian, and only too many of our countrymen and women go to France and Italy every year.

A reasonably good United States Pharmacopœia should be based upon those time-honored remedies which have held their place in the confidence of physicians, of all ages and languages, down to the present times. It should also contain all the peculiarly American and really useful remedies which are found in this country only. Very respectful attention should be paid to the Pharmacopœia of England, which now includes those of Scotland and Ireland; and to that of Germany, which now embraces almost all of Germany, except Austria; and to the Pharmacopœias of France, Italy, and of Spain.

The remedies which are found most useful in all those countries, and which our naturalized citizens from them prefer and require here, should find some place, in the secondary list of the United States Pharmacopœia; or at least in a new or tertiary list, if the other conception be still too great and revolutionary to be granted.

In short, our United States Pharmacopœia must rise almost to the proportions of an INTERNATIONAL one, in order to satisfy the wants of our mixed population. Else it will become more and more useless every year both to physicians and apothecaries, until finally it will only be purchased for form sake by a few only, and rarely or never be consulted, and thus lose almost all its influence here or abroad.

It is but justice to say that some little advance has been made in the right direction in the fifth decennial revision of the U. S. Pharmacopœia published in 1873; but it is feared that the sixth decennial revision will prove almost as useless as the fifth has been found.

Simple and useless remedies have been retained both in the primary and secondary lists from 1820 down, which it is safe to assume that few or no physicians have ever used since that time, or ever will use. Of these *oleum bubulum*, or neat's-foot oil, has been dismissed from the primary list; and only four from the secondary list; while many others are left on both the primary and secondary lists which might easily be replaced by others which are much used by the foreign physicians and citizens who so abound among us; and which the American physicians, the best educated class of which read and speak both French and German, would most gladly become acquainted with from some authoritative national work.

The proper dismissions, substitutions, and additions would scarcely swell the proportions of the U. S. Pharmacopœia beyond that of the *Pharmacopœia Germanica*, the style and size of which, but not the language, more nearly approaches that of the earlier editions of our Pharmacopœia than does the fifth decennial revision; which, by the by, is so small and thick, and printed on such tender and pretentious paper, and so poorly bound that if anybody should treat it as a book of frequent reference, as it should be, it would soon fall apart. The German Pharmacopœia is simple, yet strong, and even elegant in its simplicity. Its paper and printing are of the best, and most enduring; and its binding is so perfect that it may be used daily for years without fear of materially damaging it. Yet it costs less than our own.

# NEW PATENTS AND LAWS.

## TRADE MARKS REGISTERED IN U. S. PATENT OFFICE.

*Certificates dated May 30, 1876.*

3,720. **"Medicinal Wash for Horses, Mules, &c.,"**—John Kilpatrick, Philadelphia, Pa.

3,724. **"Washing-Crystal."**—Theodore K. Batt, Philadelphia, Pa.

3,725. **"Soap."**—Butterworth & Wilber, Fall River, Mass.

3,727. **"Prepared Washing-Soda."**—C. H. Fisher & Co., New York, N. Y.

3,728. **"Medicines."**—George E. Fitton, Boston, Mass.

3,730. **"Liniment,"**—Robert McCormick and John J. Kelly, Boston, Mass.

3,731. **"Lotion for the Cure of Sores."**—Thomas E. Owens, Natchez, Miss.

3,736. **"Sweat-Odor Annihilator."**—Tompkins & Standard, Lewistown, Ill.

3,737. **"Hydrocarbon Oils."**—Warden & Oxnard, Pittsburg, Pa.

*Certificates dated June 6, 1876.*

3,740. **"Medical Compound."**—Clarke & Co., San Francisco, Cal.

3,743. **"Medical Preparations."**—Lucy E. Hoyt, Portsmouth, N. H.

3,749. **"Preparation for Removing Dandruff."**—John Scott, Providence, R. I.

3,760. **"Fruit Syrups, Brandies, Cordials, and Juices."**—J. Calvin Shafer, Mount Clair, N. J.

*Certificates dated June 13, 1876.*

3,761. **Lacteous Farina.**—Henry Clotz, New York, N. Y. "A mountain scene, in the foreground of which are two cows and a woman, the latter engaged in milking one of the cows, the other cow being represented in the act of feeding."

3,763. **Mineral Water Known as "Blue-Lick."**—Hamilton Gray & Co., Maysville, Ky. "Words 'Blue-Lick Water' and the picture representing a running or leaping deer."

3,775. **Perfumers or Atomizers.**—Thomas J. Holmes, Boston, Mass. "The fanciful denomination of 'FAVORITE.'"

3,780. **Proprietary Medicines.**—Roberts & Gale, Lacon, Ill. "The figure of a griffin surmounted by the head of a sphinx, with the wings spread in the form of the letter C, and the words 'Trade Mark' appearing in white letters in a semicircle near the top of the wings, and the directions for using being printed across and over the whole circular figure."

## LABELS REGISTERED IN THE U. S. PATENT OFFICE.

*Certificates bearing date May 30, 1876.*

728. **"Hoyt's Dyspepsia Cure."**—Starr H. Ambler, New York, N. Y.

730. **"Dr. Fisher's Golden Seal."**—James E. Blake, New Bedford, Mass.

731. **"Coles' Celebrated Rheumatic Remedy Cures Rheumatism, Neuralgia, and Gout."**—D. F. Coles, Rahway, N. J.

733. **"Dr. Hogguer's Celebrated Stomach Bitters."**—F. F. N. Hogguer, Philadelphia, Pa.

734. **"Emulsion of Magnesia."**—J. E. Hutchings & Co., Brooklyn, N. Y.

736. **Household Ammonia.**—Charles C. Parsons, New York, N. Y.

740. **Granulated Lye.**—Lehman Myers, Milwaukee, Wis.

741. **Jerusalem Balsam.**—Elizabeth Christin (Sister Mary, Superior of the Sisters of Charity), Salem, Mass.

743. **Dr. White's Compound Dandelion Alterative.**—Ahira R. White, Indianapolis, Ind.

744. **Burke's Family Liniment.**—Edmund Burke, Lynn, Mass.

745. **E. H. Kellogg's Extra Wool Oil.**—E. H. Kellogg, New York, N. Y.

747. **"List of Syrups at Hash's."**—Jesse S. Nash, Bridgeport, Conn.

*Certificates dated June 13, 1876.*

750. **"Paris Green for Killing the Potato-Bug and Cotton-Worm."**—William Davidson & Co., Baltimore, Md.

751. **"Aromatic Bitters or Angostura Bitters."**—William H. Knoepfel, New York, N. Y.

754. **"Geneva Homœopathic Globules."**—Covert & Browne, Syracuse, N. Y.

755. **"Elmer's Great French Remedy."**—Geo. W. Elmer, Northfield, Mass.

760. **"Complete—For the Blood."**—C. Oren Radcliff, Rockland, Me.

## NEW PATENTS.

[*We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for 50c. will give copies of the drawings of such as are illustrated.*]

*Patents granted May 30, 1876.*

177,918. **Electro-Magnetic Annunciators.**—Ernest Axthelm and Wm. Pease, Pittsburg, Pa.

177,930. **Lamp Steam-Generators and Boilers.**—Herman Fritz, Cleveland, Ohio.

177,965. **Gas Distributors.**—J. R. Shirley, Providence, R. I.

177,971. **Spermatic Trusses.**—Harvey A. Stephenson, Allegheny, Pa.

177,984. **Auricles.**—John H. Batchelder, Salem, Mass.

177,987. **Mordants.**—Frederick J. Bird, Stroud, England.

177,996. **Galvanic Batteries.**—Rudolph Einbigler, New York, N. Y.

178,005. **Amalgamators.**—L. Hinckley, San Francisco, Cal.

178,006. **Bottle-Stoppers.**—Mathias J. Hinden, Detroit, Mich.

178,019. **Bottle-Stoppers.**—Purches Neiles, New York, N. Y.

178,020. **Filtering Water in Household and other Cisterns.**—Samuel E. Mosher, Chillicothe, Ohio.

178,047. **Evaporating-Pans.**—Sydney S. Connor, Aimte City, La.

178,050. **Insect-Powder Guns.**—Charles B. Dickinson, Brooklyn, N. Y.

178,061. **Obtaining a Resinous Substance from Purified Sludge Oil.**—Walter P. Jenney, New York, N. Y.

178,094. **Refrigerator-Barrels.**—Robert C. Armstrong, Alexandria, Va.

178,104. **Protectors in Tapping Barrels.**—Benjamin Brown, Stapleton, N. Y.

178,115. **Oil-Cans.**—William H. Clark, and William J. Clark, Salem, Ohio.

178,146. **Acid Powders and Processes of Producing them.**—J. V. Hecker, New York, N. Y.

178,152. **Varnish.**—N. P. Jenney, New York, N. Y.

178,153. **Bases for Japan or Varnish.**—N. P. Jenney, New York, N. Y.

178,154. **Resinous Substances.**—Walter P. Jenney, New York, N. Y.

178,175. **Boxes for Bottles.**—John Matthews, New York, N. Y.

178,183. **Pill-Coating Machines.**—Henry C. Neer, Park Ridge, N. J.

178,194. **Fertilizers.**—Alexander N. Rowland, Wilson, N. C.

178,215. **Galvanic Batteries.**—John E. Watson, Louisville, Ky.

### The California Medical Law.

A BILL regulating the practice of medicine has been passed by the California Legislature, and signed by the Governor, the provisions of which are as follows:—

Every person practicing medicine, surgery, or any specialty connected with either medicine or surgery, is required to present to a Board of Examiners his diploma or license, with satisfactory evidence of its genuineness.

Each State medical society, the date of whose organization is prior to the month of March, 1876, and whose members are required to possess diplomas or licenses from regularly chartered schools, shall elect from its members seven physicians, who shall constitute a Board of Examiners.

The Board of Examiners shall inspect the diploma or license of every physician in the State. Upon the presentation of sufficient evidence of the genuineness of such diploma or license, the physicain receives from the Board a certificate which entitles him to practice throughout the State.

The Board also examines persons not having diplomas or licenses; and to those who give evidence of a satisfactory knowledge of medicine and its branches, a certificate is issued, which entitles the holder to practice throughout the State.

The Board has the power of ignoring the diploma or license of any physician, who has in the past associated with charlatans, and who has habitually violated the code of ethics. It also has the power of revoking any certificate, which may have been granted by the Board, upon proof of a violation of the code.

Members of the medical staff of the Army and Navy, and students prescribing under preceptors, are exempt from the provisions of the bill.

## PRESCRIPTIONS AND FORMULÆ.

**Selected Hospital Formulæ.**—By request we publish some of the standard formulæ used at Bellevue or Charity Hospital, New York City:

*Stokes' Expectorant Mixture.*

℞ Ammon. Carb. ..... gr. 32
Ext. Fl. Senegæ. } ää fl. ℥ 1
Ext. Fl. Scillæ. } ää fl. ℥ 1
Tr. Opii Camph. ..... fl. ℥ 6
Aquæ ..... fl. ½
Syrup. Tolut. ..... q. s. ad fl. 4
M. Teaspoonful.

*Mist. Hydrocyanica. Ch. H.*

℞ Potass. Cyanid. ..... gr. 2
Vin. Antimon. ..... ℥ 2
Syr. Tolut. } ää fl. ℥ ½
Mucil. Acac. } ää fl. ℥ ½
Aquæ. ..... q. s. ad fl. ℥ 2
M. Teaspoonful.

*Mist. Lafayette. B. & C. H.*

℞ Bals. Copaiv. } ää ℥ ½
Spts. Æther. Nit. } ää ℥ ½
Liq. Potass. ..... ℥ ½
Spts. Lavand. Co. ..... ½
Mucil. Acaciæ. ..... q. s. ad 4
M. Tablespoonful.

*Mist. Asthmatica. B. & C. H.*

℞ Spts. Æth. Co. } ää ℥ 1
Sol. Morph. U. S. } ää ℥ 1
M. Tablespoonful.

*Mist. Bumstead.*

℞ Bals. Copaiv. ..... fl. ℥ ½
Tr. Ferri Mur. } ää ℥ 2
Tr. Cantharid. } ää ℥ 2
Syr. Acaciæ. ..... q. s. ad fl. ℥ 4
M. Tablespoonful (in Gonorrhœa).

*Mist. Diarrhœa Ruschenberger, B. & C. H.*

℞ Tinct. Opii }
" Camph. }
" Capsici. } ää p. e.
" Menth. Pip. }
" Rhei Arom. }
M. 30 to 40 drops in water.

*Mist. Biniodidi.*

℞ Hydrarg. Bichlor. ..... gr. 1
Potass. Iod. ..... ℥ 2
Tr. Gent. Co. ..... fl. ℥ 2
[Tr. Cinch. is less proper, because some of the alkaloids are precipitated with iodohydrargyrate of potassium.]
M. Teaspoonful.

*Loomis' Tonic.*

℞ Sol. Quin. Sulph. [grs. 15 in 1 fl. ℥ ]. ..... fl. ℥ 2
Tr. Ferri Chlor. ..... fl. 4
Spts. Chloroformi. ..... fl. 6
Glycerinæ. ..... q. s. ad 4
M. Teaspoonful.

*Lemon Tonic. Ch. H.*

℞ Tr. Ferri Chlor. ..... fl. ½
Sol. Cinch. Sulph. [grs. 30 in fl. ℥ 1]. ..... fl. 1
Acid. Citric. ..... ½
Syrup. Simpl. ..... fl. 1½
Aquæ. ..... q. s. ad fl. 4
M. Tablespoonful.

(*To be continued.*)

**Dr. Ferrier's** snuff for cold in the head, a formula for which we published on page 175, has been modified by Dr. A. G. Burness, who suggests the use of the lighter subcarbonate instead of the heavy trisnitrate of bismuth, and the omission of the powdered acacia, a little starch being used instead, if found necessary.

**Carlsbad Salts,** that is, the mixture of salts obtained by evaporating the water of the Carlsbad Spa, may be imitated artificially by mixing together

| | *crystallized* | | *or anhydrous.* |
|---|---|---|---|
| Sodium sulphate.... | 50.56 | (containing 28.27 $H_2O$) | 45.69 |
| Sodium carbonate... | 36.44 | ( " 22.94 " ) | 27.67 |
| Sodium chloride.... | 13.00 | | 26.64 |

**Marking Ink of Tyrian Purple.**—The linen or cotton goods to be marked are previously mordanted with a mixture of aluminum acetate and stannic chloride (tin crystals); after the spots have become perfectly dry, they are marked with a liquid prepared by saturating 5 grm. of ammonium carbonate with pure nitric acid and rubbing 3 to 4 grm. of carmine with the solution.

**To Prevent Troublesome Perspiration of the Feet.**—Dr. I. H. Crawford, of Wiscasset (State not mentioned), writes to us that, in connection with the use of cold water and soap, the following formula has in his experience relieved this disagreeable affection:

Salicylic acid. ..... gr. i.–ij.
Lycopodium powder. ..... ℥ i M
To be dusted on the feet.

## NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, providing they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

**R. S. (Hanover, N. H.)**—*A. Husemann's Test for Morphia* is asserted to be exceedingly delicate, as small a quantity as 0·00001 gm. (= $\frac{1}{6700}$ gr.) of morphia being said to be recognizable, even in presence of organic coloring matter. It consists in heating the suspected liquid to 150°, or thereabouts, for a few moments with concentrated sulphuric acid, leaving it to cool, and adding a trace of sodium hypochlorite, potassium chlorate, or chlorine water: a beautiful blue—to violet-red color—then appears, which soon changes to blood-red and finally disappears.

**S. S. (Brooklyn.)**—Since answering your query on p. 160 of the May number of our journal, we have been apprised of another method of purifying carbon disulphide,

which is recommended as being the most convenient on the large scale. According to L. H. Friedberg, namely, it may be purified by distilling it from palm-oil, agitating the distillate with fuming nitric acid, adding cold water to the mixture, filtering, and carefully distilling between 50° and 60° C. The distillate is once more washed with water and redistilled, when it will be obtained chemically pure.

**P. W. H. (Springfield, Ill.)**—You will find the desired formula for *strong solution of salicylic acid* on page 205 of this number. You will see that it is considerably abbreviated, and easy to make; in fact, the former way, by heating, had only been adopted, because we had been so prejudiced about the solubility of salicylic acid, and by its refusal to dissolve readily in presence of other salts, that we did not hit upon the readiest way in the beginning.

**J. W. G. (Columbia, S. C.)**—Some of the names which you ask us to give the botanical equivalents for, we are unable to identify, and suspect that a few are corrupted, as for instance: *Yontra*, *Mochaïlla*, *Samplaco*. But we shall be glad if any of our readers will inform us. The others are: *Jobo de Lagarta* = *Panax fruticosum* L. *Ortiga brava* = *Loasa sclareæfolia* L. *Amasigo* = *Bursera gummifera* Jacq. *Yerva de Chivo* = *Hydrolea spinosa* L. These four terms are current in Panama.

**I. N. (N. Y.)**—"When in the course of human events it becomes necessary for" us to answer queries or rather to reply to letters, like yours, it is no small task, for at this blessed moment the thermometer stands 95° F. in the shade. Your proposition to abolish wine, whiskey, and brandy from the next U. S. Pharmacopœia has convinced us of the fact that you are a convert to total abstinence, but it is not sufficient to convince us that nature has produced the grape and various other plants for the purpose of waging war against them. You correctly state that Mohammedans can get along without them; but do you know what penalty those who adhere to their tenets have to pay for wanting them, when most necessary? You also assert that the Talmud forbids its use to the Hebrews. But there you are mistaken. As your name suggests to us the possibility that you are capable of reading the Talmud in the original, we will only point out to you a few places where you will find different statements: Kilajim (4,4) ("grown on lattices"); Demai 3,5 ("wholesale trade"); Baba batra 58 ("at the head of all medicines is wine"); ibid. 98,1 (great wine emporium at Sulshafat in Babylonia). Resh Lakish says that the people of Israel are often compared to the vine, the branches being the citizens, the grapes the wise men, the leaves the laborers, and the unripe grapes the drones (Chulin 92). We think you may safely leave the choice of the appropriate remedies to be used in the hands of professionals, and wish, for your conscience sake, that your life may never be in such danger as to require "fermented" liquids.

**B. A. (Binghamton.)**—"*Chamæleon or Chamelion Solution*" is a solution of potassium permanganate, so named from the variously tinted hues it assumes according to the degree of dilution. In German chemical works it is the usual appellation of this reagent, especially of the standard solution for volumetric analysis.

**W. H. Sch. (N. Y.)**—*Schweitzer's Reagent* is an aqueous solution of ammoniated copper, prepared by dissolving freshly precipitated hydrated cupric oxide in aqueous ammonia (or, according to Schweitzer's original formula, by dissolving Heeren's basic cupric hyposulphate in ammonia, or according to Peligot by dissolving finely divided electrolyzed copper in ammonia with access of air). If cellulose be introduced into such a solution, it first swells up, then becomes gelatinous, and finally dissolves entirely. On adding much water, or acids, or concentrated solutions of alkalies, gums, or sugar, the cellulose separates again, and on drying is obtained as a horny mass, which, after washing with alcohol, appears as a white powder.

**Mrs. M. E. B. (Philadelphia.)**—We know of no preparation which would accomplish what you desire. We advise you to apply to some good artiste or hairdresser, they being frequently in possession of little toilet secrets such as might apply to your case.

**G. R. M. (Trenton, N. J.)**—This correspondent wishes to know some method by which he can *keep his syrup-bottles free from ants*. Various substances may be used for sprinkling the shelf with, on which the syrups stand, as for instance powdered borax, or a faint coat of carbolic acid. But the best way, which we can recommend from experience, is to have all your syrup-bottles on raised supports inside of a shallow tray (which may fill the whole shelf) filled with water or a mixture of glycerine and water to the depth of about half an inch. The liquid forms an impassable barrier for the ants. But you must look on the upper shelf occasionally, or they may get the best of you by dropping down from above.

**Dr. N. & Co.** (Kingston, Mo.)—The registration of a trade-mark or label to be used on a bottle or other package serves only to protect the owner in the use of such distinctive mark. To prevent infringements on the medicine a patent on the compound itself will be necessary.

**J. F. N. (N. J.)**—A formula for "Thompson's (Dr. J. Ashburton) Solution of Phosphorus," was published in our April number (p. 124). Still another formula is a solution of phosphorus in ether, which was recommended by him in a paper read before the British Medical Association in 1874. According to the amount employed, he claimed that the phosphorus acted as a tonic, stimulant, or poison; and to produce these effects he advised the use, respectively, of one hundredth to one twenty-fifth of a grain as a tonic, and one-twelfth to one-eighth of a grain as a stimulant. The production of an aphrodisiac effect is an evidence of its tonic action. In a previous number of the *British Med. Jour.* Mr. Bradley recommends the following formula for the administration of this remedy:

Dissolve ten grains of phosphorus in two ounces of ether, shaking the bottle from time to time. Of the solution one minim equals one-hundredth of a grain, and can be given in an ounce of water with a drachm of glycerine.

**A. J. B.** wishes to know of a "remedy to destroy tartar on teeth," in the case of an old smoker and chewer in which different preparations have been tried without success.

"Tartar," or salivary calculus, consists, according to Salter, principally of phosphate of lime, with about eighteen per cent. of organic matter, and six per cent. of water. When it is superficial in amount it may be removed by the *momentary* application of dilute hydrochloric acid followed immediately by an alkali of some sort to neutralize its effects. When, however, it has accumulated to any extent it can only be removed by scaling instruments, with which every dentist is provided, and to one of whom we advise A. J. B. to send his case for treatment.

**G. C. G. (Rockford, Ill.)**—Coca leaves can now be had, we believe, of several of our importing druggists.

## ITEMS.

**Obituary. Dr. Lewis Feuchtwanger.**—This gentleman, who died on Sunday, June 25, at his residence in this city, was born at Fürth, near Nuremberg, in Bavaria, in 1807. At his native place he received a good elementary education, and at the age of 13 went to Berlin to study ancient languages and receive a full collegiate education. At this period he was apprenticed to a pharmaceutist and chemist. A few years later he went to Jena, where he studied theoretical and practical chemistry at the Pharmaceutical Institute of Prof. Goebel, and in 1828 graduated. In the year 1829 he came to the United States, and in the following year he opened the first German pharmacy in New York city, where he introduced a number of useful preparations,

among which were deutoxide of mercury and the manufacture of medicated lozenges.

In 1832 he contracted to cover for the U. S. Government the piles and bombshells (which were then lying in the Brooklyn Navy Yard decaying) with his preparation of "Soluble Glass," which has for years effectually withstood the destructive effects of worms, etc. During the years 1835, '36, and '37 he devoted considerable time to the refining of nickel from the native mineral called copper nickel, and also to the manufacture of German silver, which was then unknown in this country, and in the latter year, when specie payments were suspended in the United States, he, with the permission of the Secretary of the Treasury, issued one and one-half millions of penny coins in one month; about this period he went to Washington, and while there a petition was presented to Congress by John Quincy Adams and Theo. H. Benton, asking Congress to allow him to coin or stamp $100,000 worth of the smallest coins as an experiment of introduction. The petition was received and referred to the director of the mint, who, however, reported unfavorably on it. Nevertheless, twenty years later, Dr. Feuchtwanger's idea was partially adopted, and it may be fairly said that the present five-cent nickels are virtually the result of his suggestions.

In 1851, while on a visit to Europe, he was awarded a premium and a medal for bleached shellac at the World's Fair in London.

He was the author of various works, his book on Gems reaching three separate editions. He was a contributor for many years to Hunt's Merchants' Magazine, Silliman's Journal, Scientific American, and other periodicals. More lately he contributed to various papers several valuable and interesting articles, the more recent of which were on the manufacture of glass, dyes, colors, etc.

Dr. Feuchtwanger was a Freemason and an Odd Fellow, a member of the N. Y. Lyceum, American Society for the Advancement of Science, the Maryland Academy of Sciences, and many other societies. His cabinet of minerals, comprising 3,000 specimens, about 1,000 different species, and over 1,000 fossils and fine gems, is of great value and much admired.

**Board of Pharmacy.**— During the fiscal year, 1875–1876, the Board of Pharmacy of the City of New York conducted 77 examinations, of which 59 were first, 17 second, and one a third examination.

44 candidates passed, and 33 were rejected—over 42 per cent.

Of the 77 candidates, 11 were proprietors and 66 were assistants; 3 proprietors and 30 assistants failed to pass; 31 passed on second and 5 failed on the second examination; 25 proprietors and 53 assistants were registered. The money received and paid into the treasury of the College of Pharmacy amounts to $403.

To obviate a misunderstanding on the part of certain enquirers, we are requested to state *that even those who hold a diploma as Graduates of Pharmacy are compelled to be registered;* but they will not need to undergo any examination.

The members of the Board are: W. De F. Day, M.D., President, Examiner in Materia Medica; Theobald Frohwein, Secretary; Gustavus Ramsperger, Examiner in Chemistry and Prescriptions; B. C. Hays, M.D., Examiner in Toxicology and Doses; Wm. Balser, M.D., Examiner in Pharmacy.

The examinations take place in the afternoon of the first Wednesday of every month; and the Secretary is to be found at the office of the Board, in the rooms of the College of Pharmacy, University Building, on the first and third Wednesdays of every month, between 2 and 4 o'clock, for the registration of those who are entitled to it.

**"Girondin."**—On June 15th an experiment to ascertain the deodorizing powers of the Girondin Disinfectant was conducted on Blackwell's Island. Mr. Jas. Meyer, Jr., one of the manufacturers, Mr. Wm. Kemeys, Dr. Jas. R. Wood, Dr. A. Flint, Jr., Dr. E. G. Janeway, the Commissioners of Public Charities and Correction, and a number of other gentlemen, who were afterwards joined by his Honor, the Mayor, witnessed the experiments. One of the upper wards of Charity Hospital, which had been impregnated previously with the odors of sulphuretted hydrogen, was freed from all odor in a few minutes by throwing the liquid in a fine spray, by means of a pump, into every portion of the room. Afterwards the party was conducted to the dead-house, where the qualities of the liquid were tested upon the body of a drowned man, in a forward state of decomposition, and a similar favorable result was obtained in a short time. The liquid has been in use for some years, and deserves to be recommended as an excellent, inodorous disinfectant and deodoriser.

**Prize Announcements.**—*The Companie Royale Asturienne des Mines* (of Brussels) has proposed a prize of 1,000 francs for the discovery of a new indicator for the end-reaction in Schaffner's process of zinc-assay in its ores. The following conditions must be complied with: 1. The determination of Zn must take place preferably in ammoniacal solution, and sodium sulphide should, if possible, be the precipitant. 2. The end reaction should appear either after the complete precipitation of Zn, by a sudden change of color (as in Marguerite's iron assay, or in the silver and potassium chromate reaction)—or the appearance of the precipitate, or of paper strips immersed in the liquid, must undergo some characteristic change. 3. Test-drop methods are excluded, unless paticularly advantageous. 4. The new method must consume no more time than those in use at present. 5. Reagents must be obtainable in uniform purity, or easily preparable in each laboratory. 6. The new indicator must combine sharpness and exactness with absolute certainty for different eyes; the differences of assay should never exceed $\frac{1}{2}\%$. Attention is called to the coal-tar colors and to the coloring agents obtained by Baeyer, Jacquemin, E. Kopp, Liebermann, etc. from phenol, orcin and resorcin, possibly also the derivatives of indigo as chrysammic acid, etc. Should more than one answer fulfil all the requirements equally well, the first one received will be awarded 600 francs, and the second 400. Applications with proposals will be received until October 1st, 1876, at the office of the company's agent, Dr. Emil Stadler, in Antwerp, Rue Jean Van Lier, No. 5, who is ready to give more information.

Another prize of 1500 marks has been proposed by the Asssociation of Gas and Water Engineers of Germany, for a new and cheaper method of removing carbonic acid from illuminating gas, or for the improvement of any of the known methods. The new process must be more perfect, cheaper, and more universally useful, simpler and less annoying, and not injurious to the illuminating power of the gas. It must be described fully and exactly, and explained with scientific demonstrations. The answers are to be sent *without name*, only provided with a motto, to Dr. Schilling of Munich; the name of the author is to be inclosed in an envelope, bearing the same motto as the answer. Only those will be opened, whose answers will be adjudicated the prize. The committee on answers is composed of *A. Buhe* and *A. Mohr* of Dessau, *E. Grahn* of Essen, *S. Schiele* of Frankfort-on-Main and *Dr. Schilling* of Munich.

**The Franklin Institute** has extended the free use of its library and reading-room to members of kindred societies visiting the International Exposition, and has also secured space in Machinery Hall as an office and reception-room, where visitors will be welcomed and furnished with materials for correspondence, etc., and with information respecting the Exhibition and surrounding country. It is proposed to place in the reception-room a full file of technological and scientific journals, for the free use of visitors; and publishers of desirable periodicals are requested to donate, for this use, the numbers of their journals issued between May 1st and November 1st, 1876. All such donations will be conveniently placed and well cared for.

**Dr. Charles Maymott Tidy** has been appointed Lecturer on Chemistry at the London Hospital, *vice* Dr. Letheby, deceased.

**Corn-Sugar** is now made at Davenport, Iowa, at the rate of 500 bushels per day.